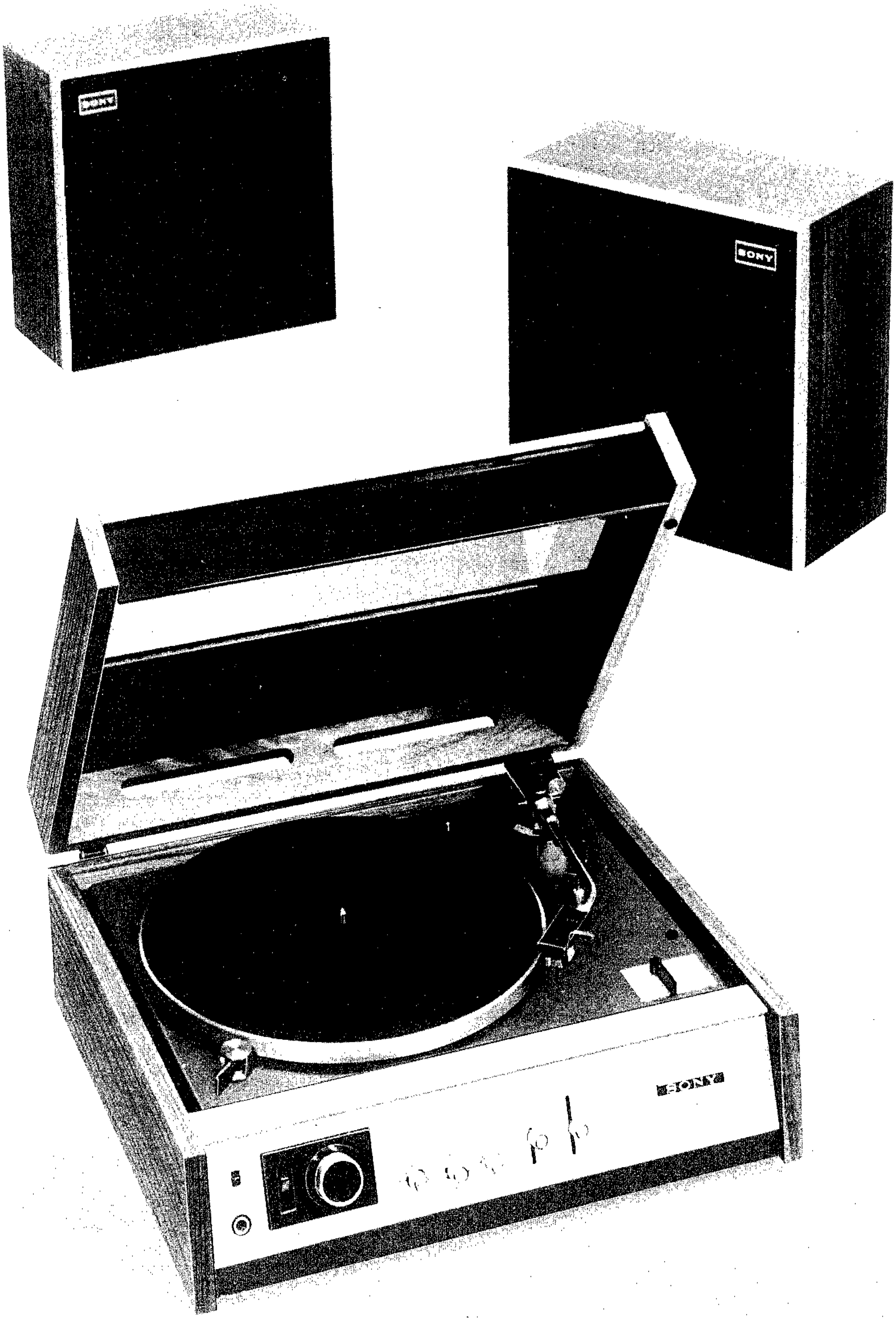
3333


SONY
SONY
SONY

SERVICE MANUAL

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SECTION 1
TECHNICAL DESCRIPTION

1-1. TECHNICAL SPECIFICATIONS

Technical specifications for the HP-466 are listed in Table 1.

TABLE 1

Audio Amplifier

Dynamic power	: 32 watts, both channels, 8 ohms
Rated output	: 10 watts, each channel, 8 ohms
Power bandwidth	: 30 Hz to 30,000 Hz
Harmonic distortion	: Less than 1% at rated output
Frequency response	: AUX: 25 to 40,000 Hz $\pm^{0}_{3}$ dB TAPE: 25 to 40,000 Hz $\pm^{0}_{3}$ dB PHONO: RIAA standard
S/N ratio	: AUX: greater than 65 dB TAPE: greater than 65 dB PHONO: greater than 60 dB
Tone controls	: BASS: ±10 dB at 100 Hz TREBLE: ±10 dB at 10 kHz
Input sensitivity	: AUX: 250mV, 120 k ohms TAPE: 400mV, 120 k ohms REC/PB: 400mV, 120k ohms
Signal output	: REC OUT: 750mV, 10 k ohms REC/PB: 30mV, 80 k ohms

Phonograph Section

Record player	: SONY TTS-200E, two speeds (33-1/3, 45 rpm)
Cartridge	: PICKERING V-15/AT-3B
Stylus	: PICKERING D1507 AT-3

General

Power requirements	: 100,117,220,240V 50/60 Hz
Power consumption	: 90 watts
Dimensions	: 17-3/4"(width) X 8-3/16" (height) X 15-11/16"(depth) 452mm(width) X 208mm (height) X 398mm(depth)
Net weight	: 31 lb 5 oz (14.2 kg)
Shipping weight	: 40 lb (18.3 kg)

Speaker Section

System	: Two-way system with 6-1/2" woofer and 3" tweeter
Voice coil impedance	: 8 ohms
Dimensions	: 14-3/16" (width) X 14-3/16" (height) X 7-1/2"(depth) 360mm(width) X 360mm (height) X 190mm(depth)

Supplied Accessories

Speaker cords RK-77 (2)
Adaptor (for 45 rpm record)
Motor pulley (60 Hz)

1-2. CIRCUIT DESCRIPTION

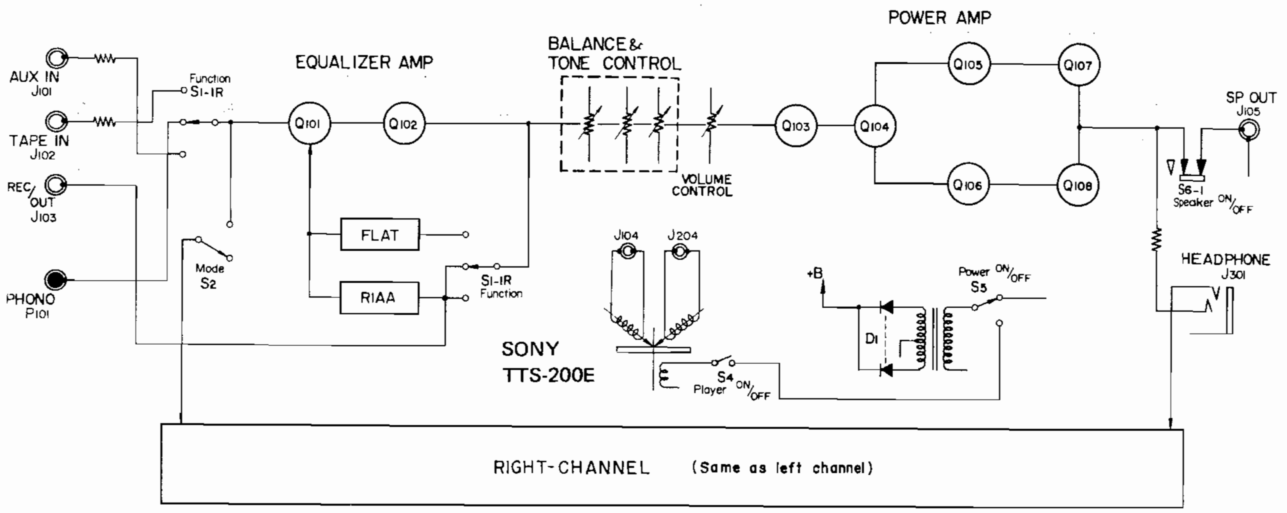
This guide follows signal paths and lists stages and key components in the left column. Refer to the block diagram on page 3 and the schematic diagram on page 17 and 18. Since the HP-466 contains two identical amplifier chains, only the left channel will be described.

Stage/Control	*Function*
Preamplifier Q101, Q102	This section amplifies the small signal produced by the cartridge, or the signals applied to the AUX and TAPE input jacks, to the level required at the input of the driver section.
FUNCTION Switch S1	In addittion RIAA equalization is accomplished in this section when the FUNCTION switch S_1 is in the PHONO position.
R111, C107, C108, C109, C110	Equalization is achieved by the negative feedback loop containing these components. Please use care when replacing any of these components that exact replacements are used.

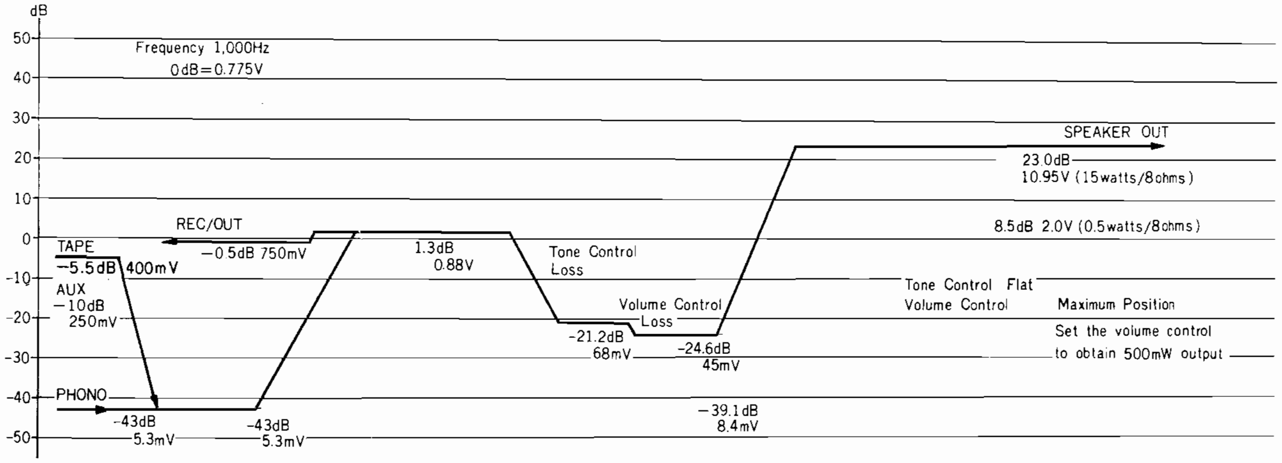
Stage/Control	*Function*
R110	In the TAPE or AUX position of the FUNCTION Switch, feedback is applied through R110 to provide a flat response in the preamplifier.
R701, R704 (R702, R703)	The signal applied to the AUX (TAPE) input jack is attenuated about 23 dB (37.5 dB) by these resistors. This makes the HP-466 accept signals of 250mV (400 mV) at the input jack.
MODE Selector S2	In the STEREO position of this switch, left and right input signals are routed to their respective amplifiers. In the MONO position of S2, left and right signals are added at the input and output terminals of the equalizer amp, then the sum is fed to both amplifier channels.
TONE Control R302, R306	R302 controls bass response. It has a range of ±10dB at 100Hz. R306 controls treble response. It has a range of ±10dB at 10,000 Hz.
BALANCE Control R308	Controls the sound balance in the both side speakers to achieve the optimum stereo reproduction.
VOLUME Control R706	The level of the signal applied to the flat amplifier is determined by the setting of R706, an audio taper control.
Audio Drive Q103	Q103 amplifies the signal to the level required at the power output stages.
Phase Inverter Q104	Q104 has two oppositely-phased output to drive the power output stages in push pull. Nearly equal load resistors are used in the collector and emitter circuits to provide equal but oppositely-phased signals at the bases of Q105 and Q106.
R511, R512, C505	These components form a negative voltage feedback loop from the output of the power amplifier to the emitter of Q103.
Drivers Q105, Q106	These transistors operate as emitter followers to provide the current swings demanded of the output stages for full output.
Power Amplifires Q107, Q108	These SONY silicon transistors have been especially manufactured to drive the speaker system at rated power from 25 Hz to 40kHz. Output is coupled to the speaker through C508.
Rectifier D1	Diode D1 forms a fullwave rectifier to supply +B to all stages.

1-3. BLOCK AND LEVEL DIAGRAM

Block Diagram


POWER AMP
BALANCE & TONE CONTROL
EQUALIZER AMP
AUX IN
J101
TAPE IN
J102
REC/OUT
J103
PHONO
P101
Function
S1-1R
Q101
Q102
FLAT
RIAA
Mode
S2
S1-1R
Function
VOLUME CONTROL
Q103
Q104
Q105
Q106
Q107
Q108
SP OUT
J105
S6-1
Speaker ON/OFF
HEADPHONE
J301
J104
J204
SONY
TTS-200E
S4
Player ON/OFF
+B
Power ON/OFF
S5
D1
RIGHT-CHANNEL (Same as left channel)

Level Diagram



SECTION 2
DISASSEMBLY AND REPLACEMENT PROCEDURES

WARNING

Unplug the ac power cord before starting any disassembly or replacement procedures.

2-1. TOOLS REQUIRED

The following tools are required to perform disassembly and replacement procedures on the HP-466.

- Screwdriver
- Phillips head screwdriver
- Wrench, 6-inch adjustable
- Pliers, long-nose
- Soldering iron, 40 to 50 watt
- Cement solvent
- Silicone grease
- Nutdriver

2-2. HARDWARE IDENTIFICATION GUIDE

The following chart will help you to decipher the hardware codes given in this service manual.

Note: Some screws in the HP-466 are manufactured to specifications of International Organization for Standardization (ISO). This means that the new and old screws are not interchangeable because ISO screws have a different number of threads per mm compared to the old ones. The ISO screws have an identification mark on their heads as shwon in Fig. 2-1.

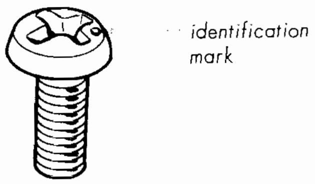
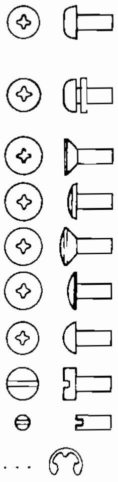


Fig. 2-1 ISO screw

— Hardware Nomenclature —

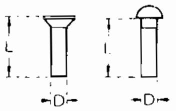
P – Pan Head Screw
PS – Pan Head Screw with Spring Washer
K – Flat Countersunk Head Screw
B – Binding Head Screw
RK – Oval Countersunk Head Screw
T – Truss Head Screw
R – Round Head Screw
F – Flat Fillister Head Screw
SC – Set Screw
E – Retaining Ring (E Washer)



W – Washer
SW – Spring Washer
LW – Lock Washer
N – Nut

– **Example** –

Type of Slit
⊕ P 3x10
Length in mm (L)
Diameter in mm (D)
Type of Head



2-3. TURNTABLE UNIT REMOVAL

1. Remove the rubber mat from the turntable.

2. Insert your fingers into the two holes of the turntable. Pull the turntable straight up as shown in Fig.2-2.

3. Remove the four transit screws (-P 4X14) securing the unit to the motorboard. See Fig. 2-3.

4. Disconnect the two phono plugs (red and black) and the 3p connector from the bottom side of the unit. The phono plugs are colored as follows.

   RED for RIGHT CHANNEL

   BLACK for LEFT CHANNEL

5. Remove the unit and place it on a soft protective pad.

2-4. WOODEN CASE REMOVAL

1. Remove the turntable unit as described in Procedure 2-3.
2. Remove the six self-tapping screws (+R 3X6) securing the case to the bottom of the chassis. See Fig.2-4.
3. Remove the two screws (+P 3X12) from the rear of the front panel aseembly and the two binding screws (+B 3X14) from the rear of the wooden case. See Fig.2-5 and 2-6.
4. Carefully push the wooden case to the rear and lift it up.

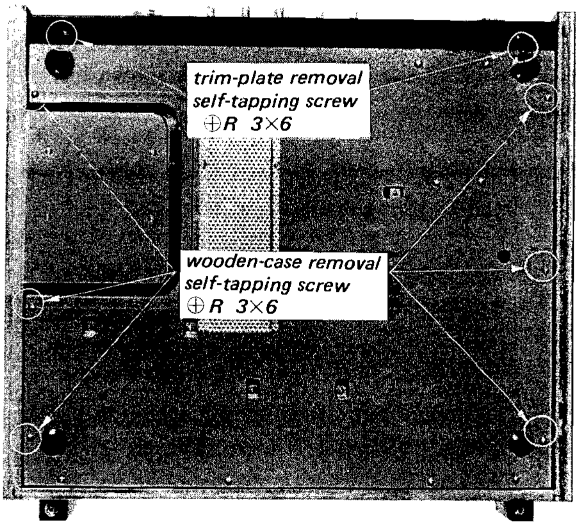

trim-plate removal
self-tapping screw
⊕R 3×6
wooden-case removal
self-tapping screw
⊕R 3×6

Fig. 2-4 Bottom view

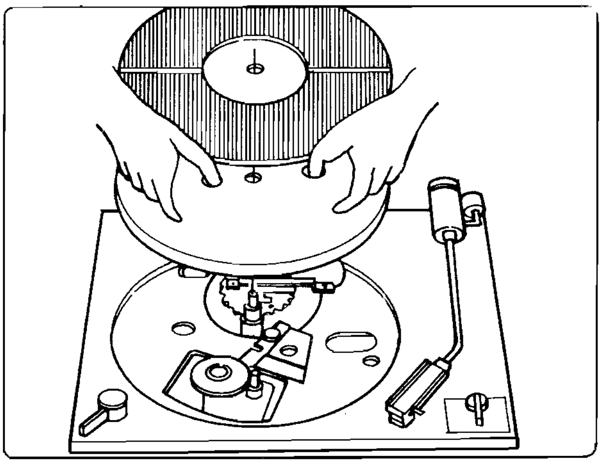


Fig. 2-2 Turntable removal

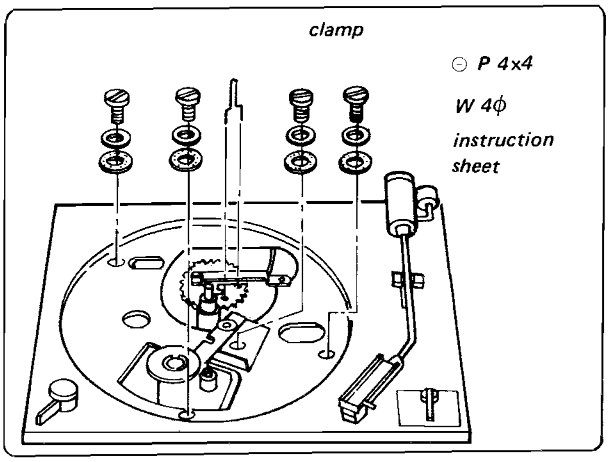

clamp
⊖ P 4x4
W 4ϕ
instruction sheet

Fig. 2-3 Transit screw removal

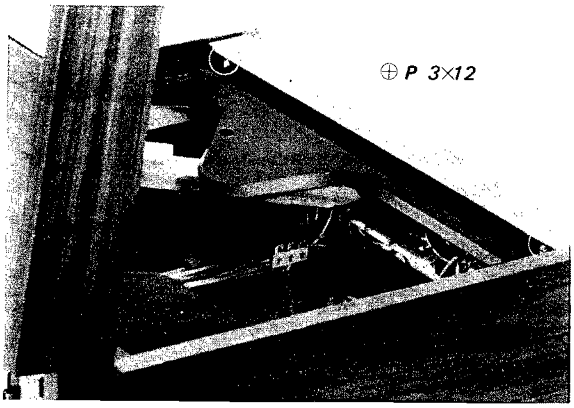


Fig. 2-5 Wooden case removal (1)

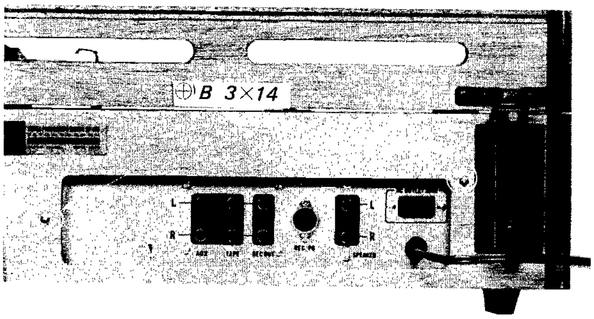


Fig. 2-6 Wooden case removal (2)

2-5. FRONT PANEL REMOVAL

1. Remove the black trim plate by loosening two tapping screws (+R 3 X 6) as shown in Fig. 2-4.

2. Remove the four screws that secure the front panel to the sub chassis. See Fig. 2-7.

3. Remove all control knobs by pulling them off. Remove two Phillips-head screws that secure the headphone jack bracket to the chassis.

4. Lift the front panel up while pulling it forward. See Fig. 2-8. It will come free.

5. To reassemble the panel, lift the panel up and push the upper part of the chassis with your fingers to fit in the groove on the panel, as shown in Fig. 2-9.

2-6. VOLUME CONTROL LAMP REPLACEMENT

1. Remove the wooden case and front panel. See Procedure 2-4, 2-5.

2. Pull out the volume dial.

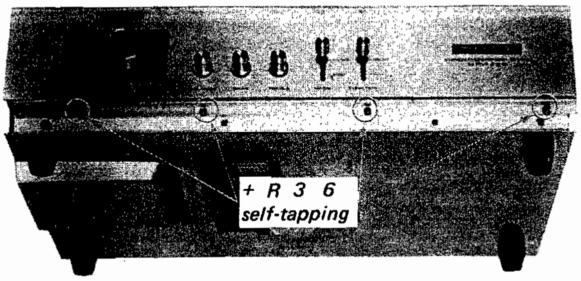


Fig. 2-7 Front panel removal (1)

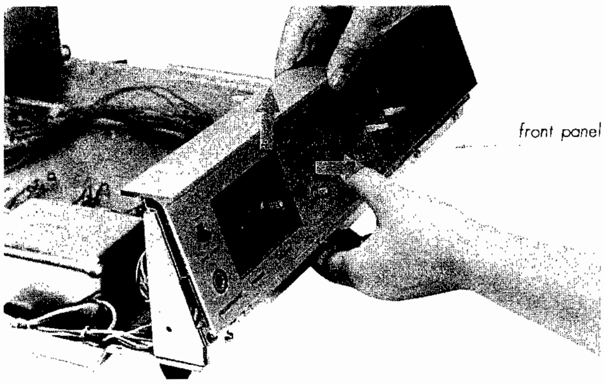


Fig. 2-8 Front panel removal (2)

3. Pry out the lamp from the mounting bracket with a pair of tweezers.

4. Unsolder the leads from a terminal and install the replacement. Be sure that a new lamp is in place as shown in Fig. 2-10.

2-7. SWITCH AND CONTROL REPLACEMENT

1. Remove the front panel, changer and chassis.

2. Replace the VOLUME, BALANCE, TREBLE, BASS controls by removing three hex nut securing the controls to the front panel assembly.

3. Replace the MODE and FUNCTION switch by removing the two screws (+PS 3 X 5) from the front panel assembly.

4. Replace the POWER switch, SPEAKER switch and headphone jack by removing two Phillips-head screws from the front panel assembly.

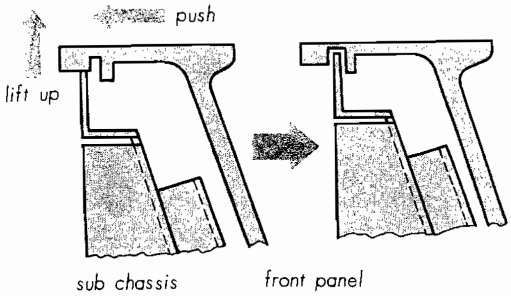


Fig. 2-9 Front panel reassembly

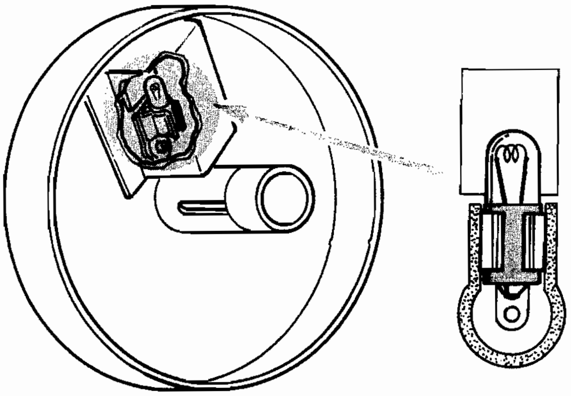


Fig. 2-10 Volume control lamp replacement

2-8. POWER TRANSISTOR REPLACEMENT

1. When replacing a power transistor, apply a coating of a heat-transferring silicone grease to both sides of the mica insulator.
   The grease fills the tiny depression in the mating surfaces, thereby improving heat transfer to the chassis.

2. Any excess grease that is squeezed out when the mounting bolts are tightened can be wiped off with a clean cloth, to prevent it from attracting conductive dust particles that would eventually short out the insulation.

3. When soldering the connections for the new transistor, use only enough heat to get good joints.

4. Mounting arrangements are shown in Fig. 2-11.

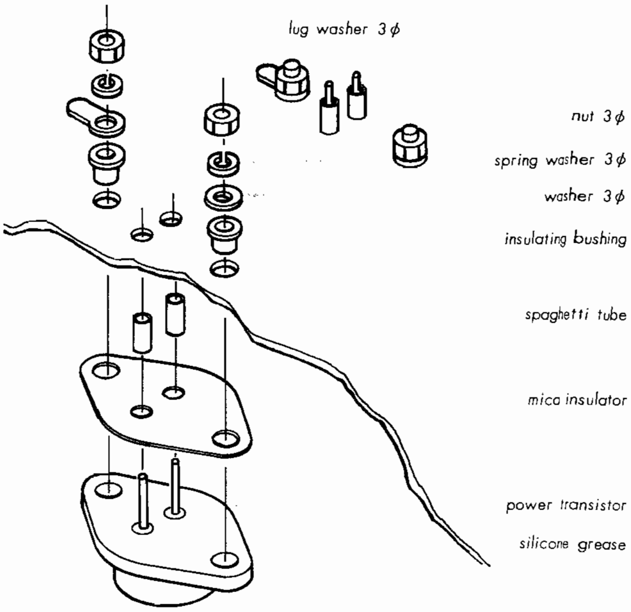
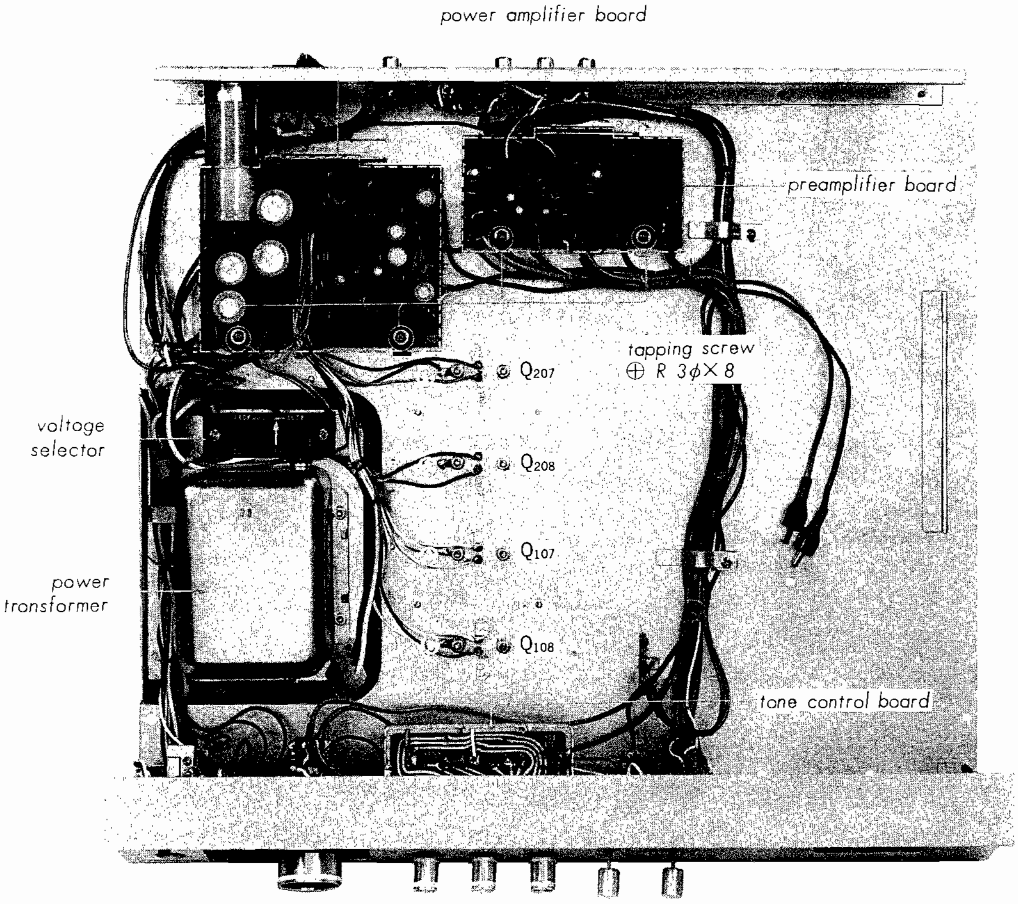

lug washer 3ϕ
nut 3ϕ
spring washer 3ϕ
washer 3ϕ
insulating bushing
spaghetti tube
mica insulator
power transistor
silicone grease

Fig. 2-11 Power transistor replacement

2-9 CHASSIS LAYOUT


power amplifier board
preamplifier board
tapping screw
⊕ R 3ϕ×8
Q207
Q208
Q107
Q108
voltage selector
power transformer
tone control board

SECTION 3
REPACKING

The HP-466's original shipping carton and packing material is the ideal container for shipping the unit. However, to secure the maximum protection the HP-466 must be repacked in this material precisely as before. The proper repacking procedure is shown in Fig. 3-1, 3-2.

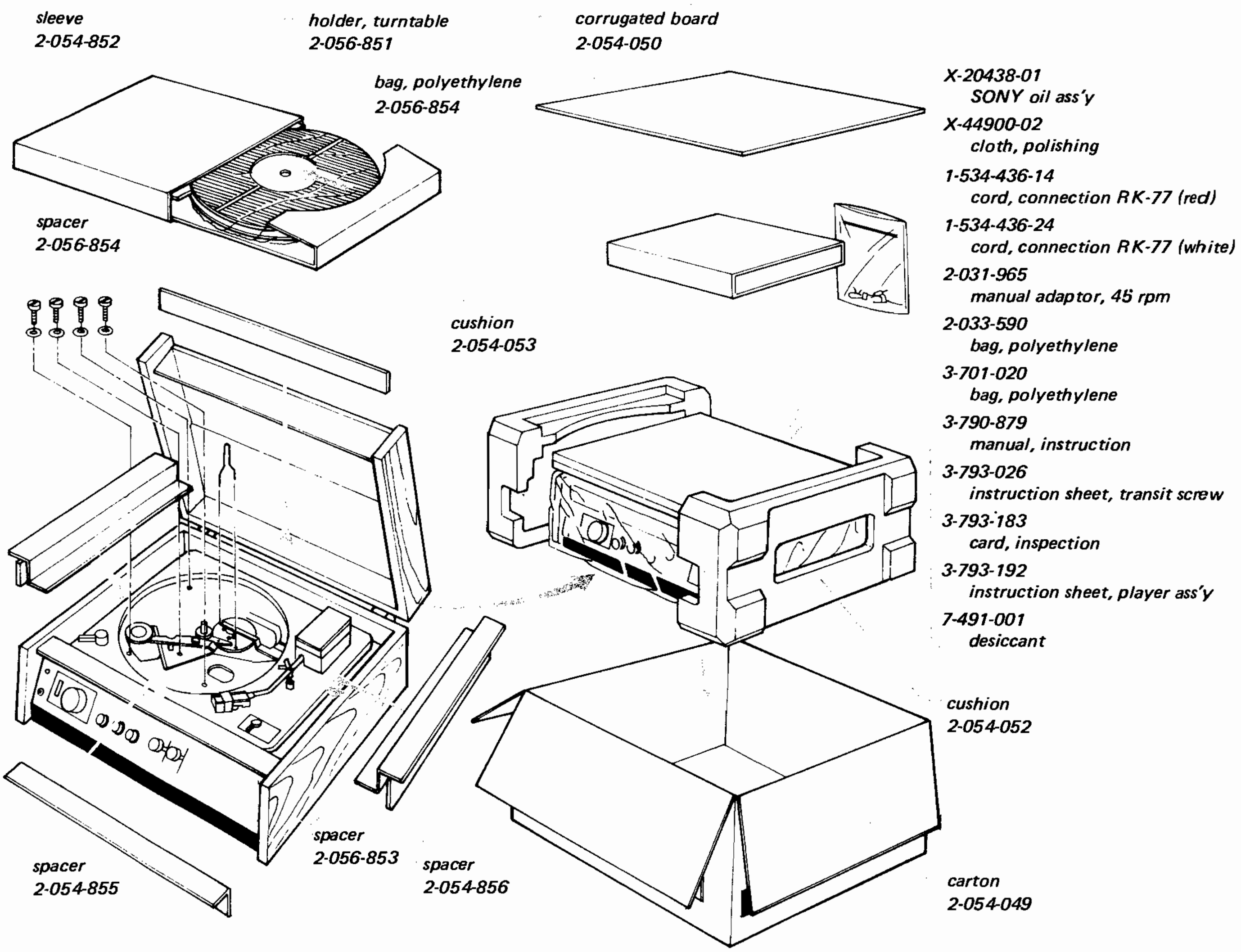

sleeve
2-054-852
holder, turntable
2-056-851
corrugated board
2-054-050
bag, polyethylene
2-056-854
X-20438-01
SONY oil ass'y
X-44900-02
cloth, polishing
1-534-436-14
cord, connection RK-77 (red)
spacer
2-056-854
1-534-436-24
cord, connection RK-77 (white)
2-031-965
manual adaptor, 45 rpm
cushion
2-054-053
2-033-590
bag, polyethylene
3-701-020
bag, polyethylene
3-790-879
manual, instruction
3-793-026
instruction sheet, transit screw
3-793-183
card, inspection
3-793-192
instruction sheet, player ass'y
7-491-001
desiccant
cushion
2-054-052
spacer
2-056-853
spacer
2-054-855
spacer
2-054-856
carton
2-054-049

Fig. 3-1 Repacking (1)

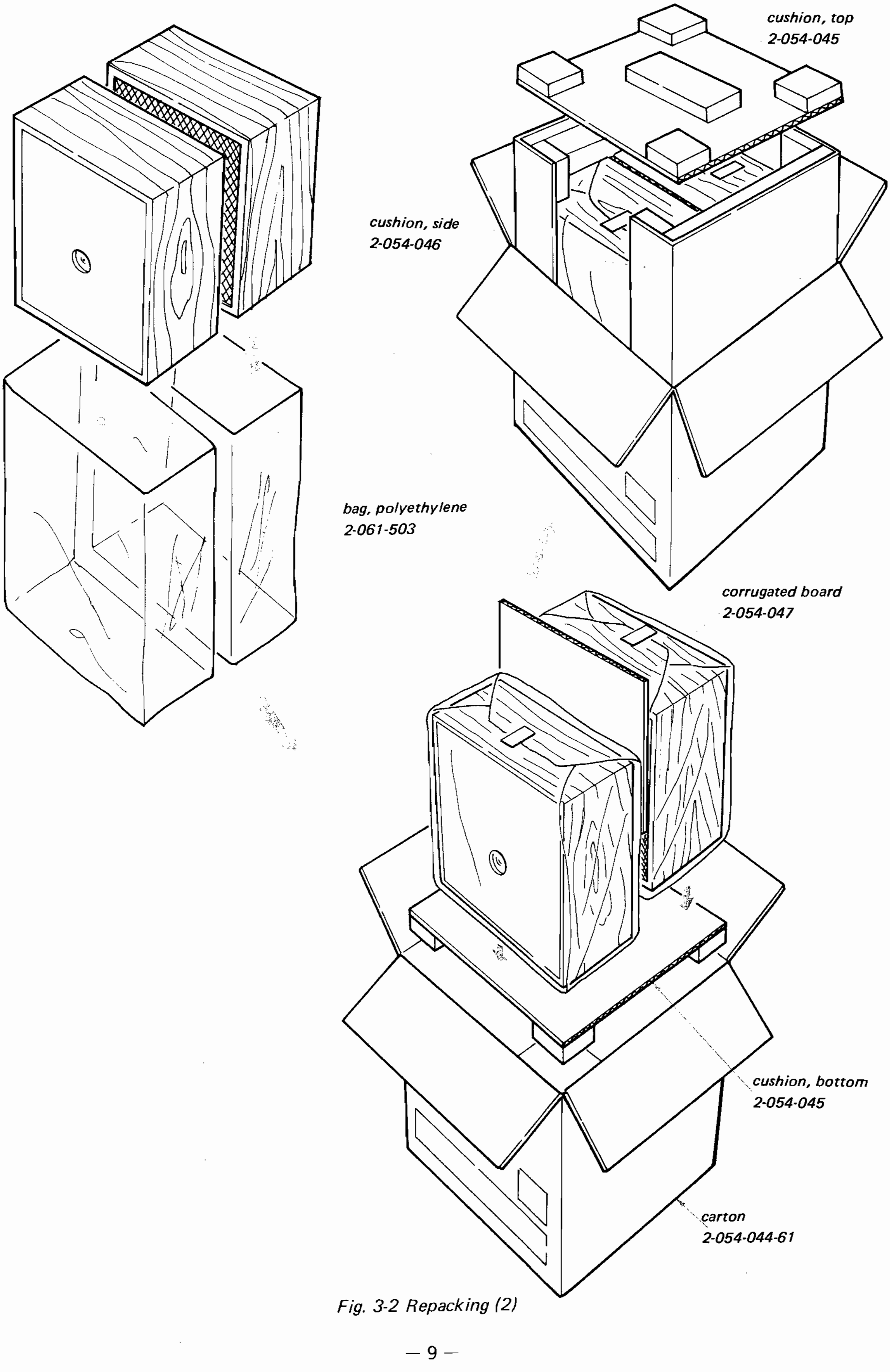

cushion, top
2-054-045
cushion, side
2-054-046
bag, polyethylene
2-061-503
corrugated board
2-054-047
cushion, bottom
2-054-045
carton
2-054-044-61

Fig. 3-2 Repacking (2)

SECTION 4
POWER AMPLIFIER ADJUSTMENT

Note: There are two adjustment items in the power amplifier. One is dc bias adjustment and the other is ac balance adjustment. These adjustments should be alternately performed two or three times after replacing any of the power amplifier transistors until the best operation is obtained.

4-1. TEST EQUIPMENT REQUIRED

1. Dc mili-voltmeter
2. Variable transformer
3. Audio oscillator
4. Attenuator, 600 ohms unbalanced
5. Oscilloscope
6. Resistor, 600 ohms, ¼ W
7. Dummy load, 8 ohms, 10W
8. Screwdriver with $^{1}/_{8}{}''$ blade

4-2. DC BIAS ADJUSTMENT

Serious deficiencies in performance, such as thermal runaway of power transistors, will result if this adjustment is improperly set.

CAUTION

To avoid accidental power transistor damage, increase the ac line voltage gradually, using variable transformer, while measuring the voltage across the emitter of Q108(Q208) to ground.
Check to see that the reading does not exceed 20 mV.

Preparation

1. Remove the turntable unit as described in Procedure 2-3 on page 4.
2. Connect the dc milli-voltmeter between the emitter of Q108(Q208) and ground, as shown in Fig.4-1

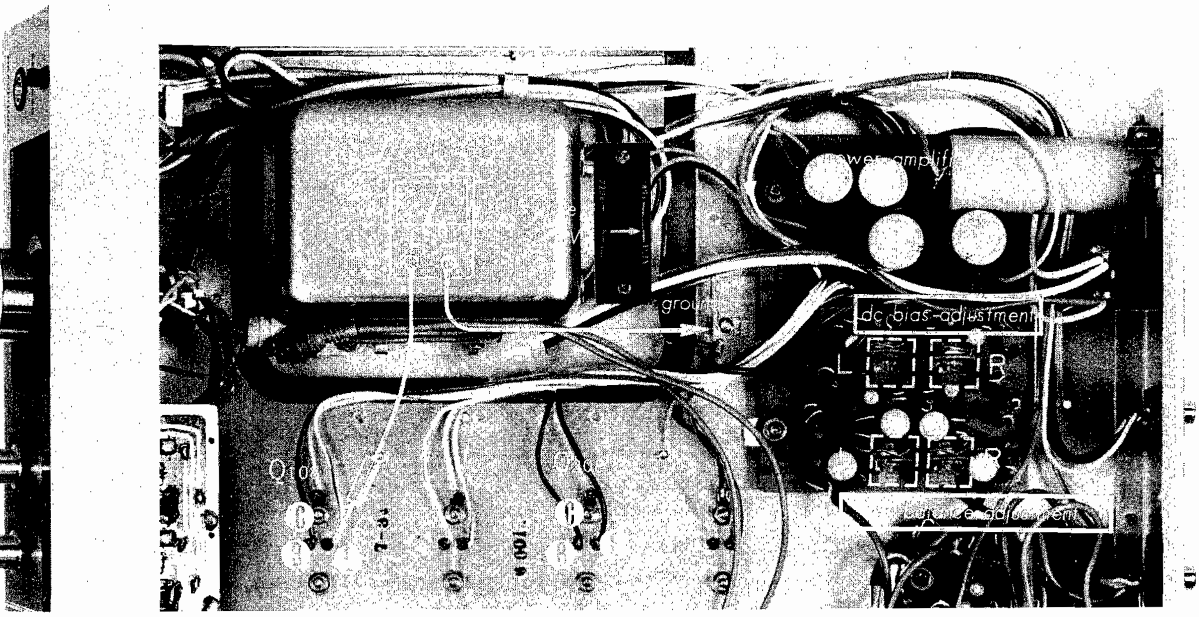


Fig. 4-1 Connection of dc voltmeter

Procedure

1. Set the semi-fixed resistors Fig. 4-1 on the power-amplifier board as follows:
   R515 (L-CH) (dc bias) . . . fully clockwise
   R615 (R-CH) (dc bias) . . . fully counter-clockwise
   R504, R604 (ac balance) . . mid-position

2. Set the variable transformer for minimum output.

3. Turn on the POWER switch; then increase the line voltage up to the rated value.

4. Adjust R515(R615) to obtain a 20mV reading on the meter.

5. After completing the adjustment, apply a drop of lock paint to R515 (R615).

4-3. AC-BALANCE ADJUSTMENT

Excessive harmonic distortion at high levels will result if this adjustment is improperly set.

Preparation

1. Set the controls as follows:

FUNCTION SELECTOR . . . . TAPE
VOLUME CONTROL . . . . . . Minimum

Procedure

1. With the equipment connected as shown in Fig. 4-3, set the POWER switch to the ON position and feed a 1-kHz, 0.775-V (0 dB) signal to the TAPE input terminal through the attenuator.

2. While watching the waveform on the oscilloscope, alternately turn the VOLUME control and adjust R504. Set R504 so that the positive and negative peaks of the output waveform are simultaneously clipped (as shown in Fig. 4-2 when increasing the VOLUME control just beyond the point that causes distortion.

3. After completing the adjustment, apply a drop of lock paint to R504.

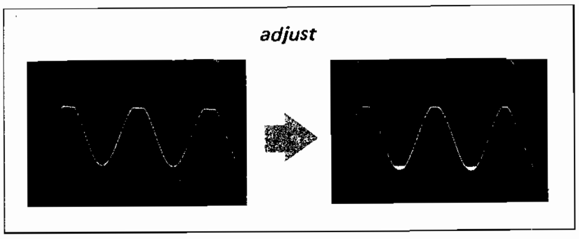


Fig. 4-2 Waveform of ac-balance adjustment

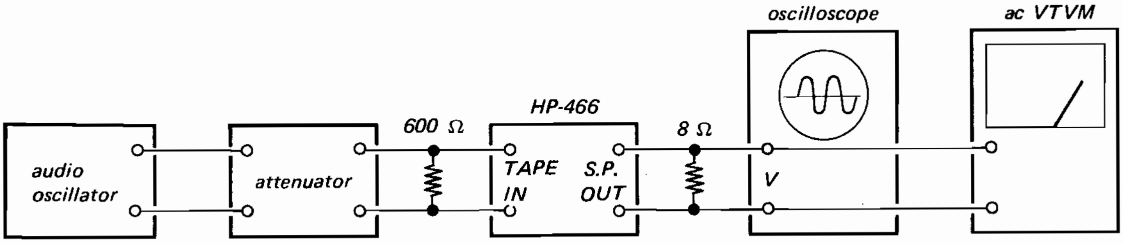
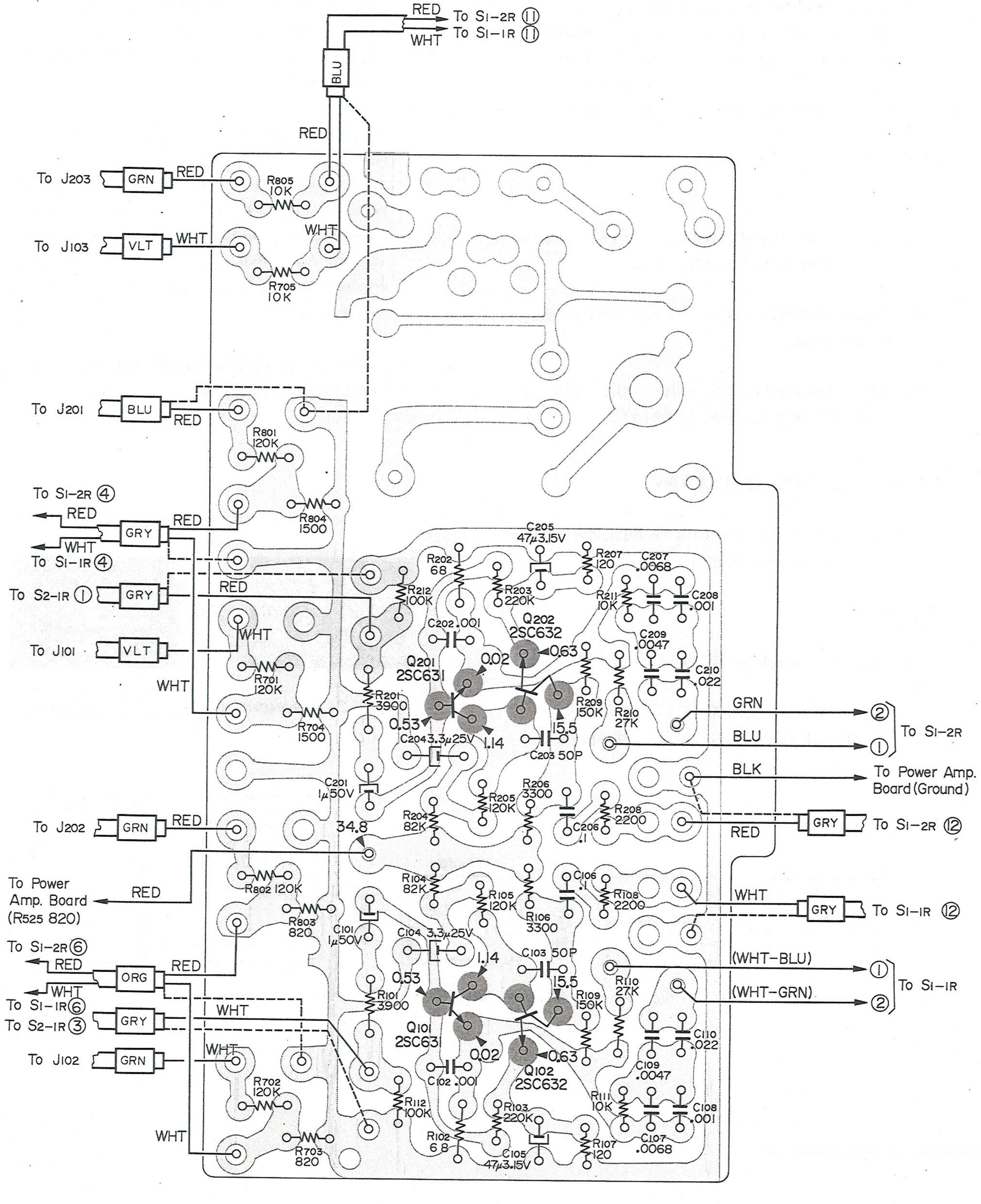


Fig. 4-3 Ac balance adjustment test setup

SECTION 5
DIAGRAMS

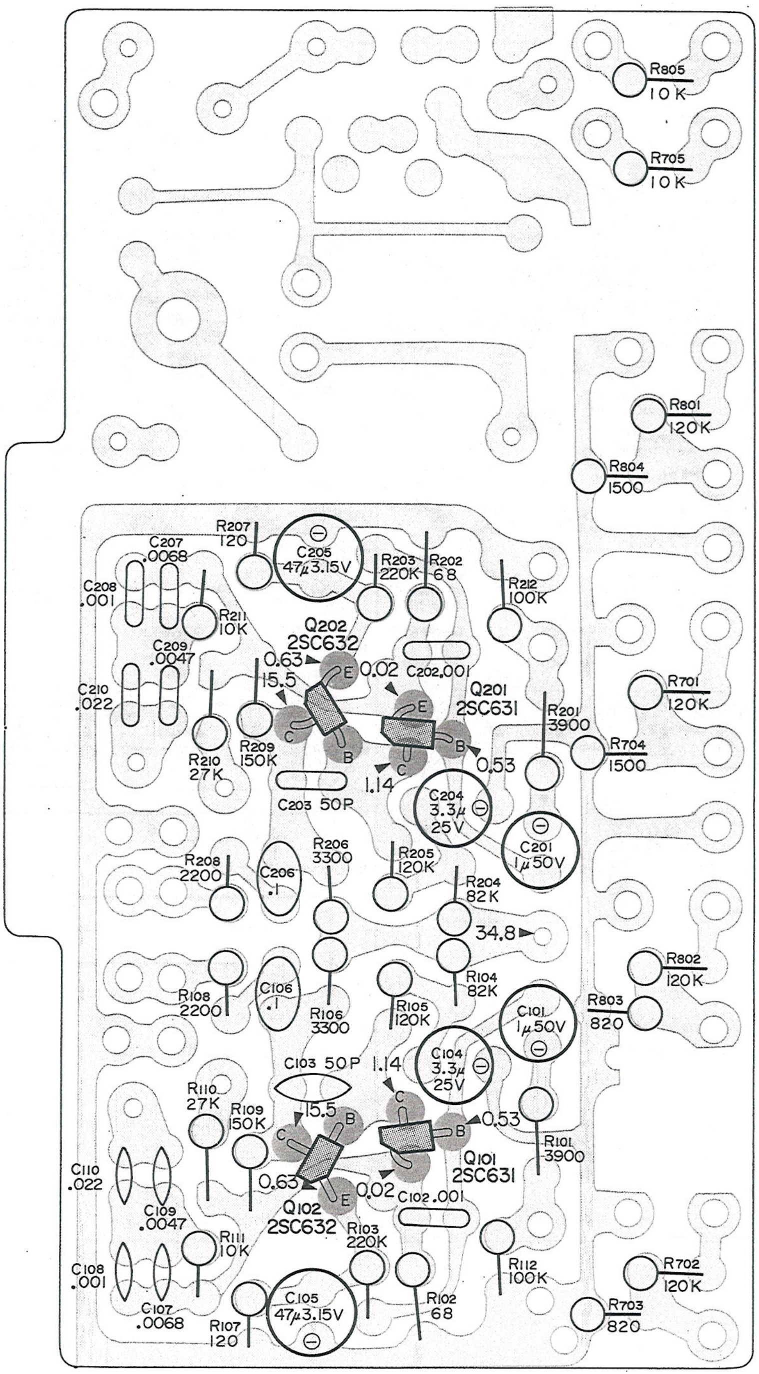
5-1. MOUNTING DIAGRAM
Preamplifier Board

–Conductor Side–


RED
To S1-2R ⑪
To S1-1R ⑪
WHT
BLU
RED
To J203
GRN
RED
R805 10K
To J103
VLT
WHT
WHT
R705 10K
To J201
BLU
RED
R801 120K
To S1-2R ④
RED
GRY
RED
WHT
To S1-1R ④
R804 1500
To S2-1R ①
GRY
RED
To J101
VLT
WHT
WHT
R701 120K
R704 1500
C205 47μ3.15V
R202 68
R203 220K
R207 120
C207 .0068
R212 100K
R211 10K
C208 .001
C202 .001
Q202 2SC632
C209 .0047
Q201 2SC631
0.02
0.63
C210 .022
R201 3900
0.53
R209 150K
R210 27K
15.5
1.14
GRN
To S1-2R
C204 3.3μ25V
C203 50P
BLU
BLK
To Power Amp. Board (Ground)
C201 1μ50V
R206 3300
R205 120K
R204 82K
R208 2200
C206 .1
To J202
GRN
RED
34.8
GRY
To S1-2R ⑫
RED
To Power Amp. Board (R525 820)
RED
R802 120K
R104 82K
R105 120K
C106 .1
R108 2200
R106 3300
WHT
GRY
To S1-1R ⑫
R803 820
C101 1μ50V
C104 3.3μ25V
C103 50P
To S1-2R ⑥
RED
ORG
RED
WHT
(WHT-BLU)
To S1-1R
1.14
0.53
R110 27K
15.5
(WHT-GRN)
To S1-1R ⑥
To S2-1R ③
GRY
WHT
R101 3900
R109 150K
C110 .022
Q101 2SC631
To J102
GRN
WHT
0.02
0.63
C102 .001
Q102 2SC632
C109 .0047
R702 120K
R112 100K
R103 220K
R111 10K
C108 .001
WHT
R102 68
R107 120
C107 .0068
R703 820
C105 47μ3.15V

5-1. MOUNTING DIAGRAM

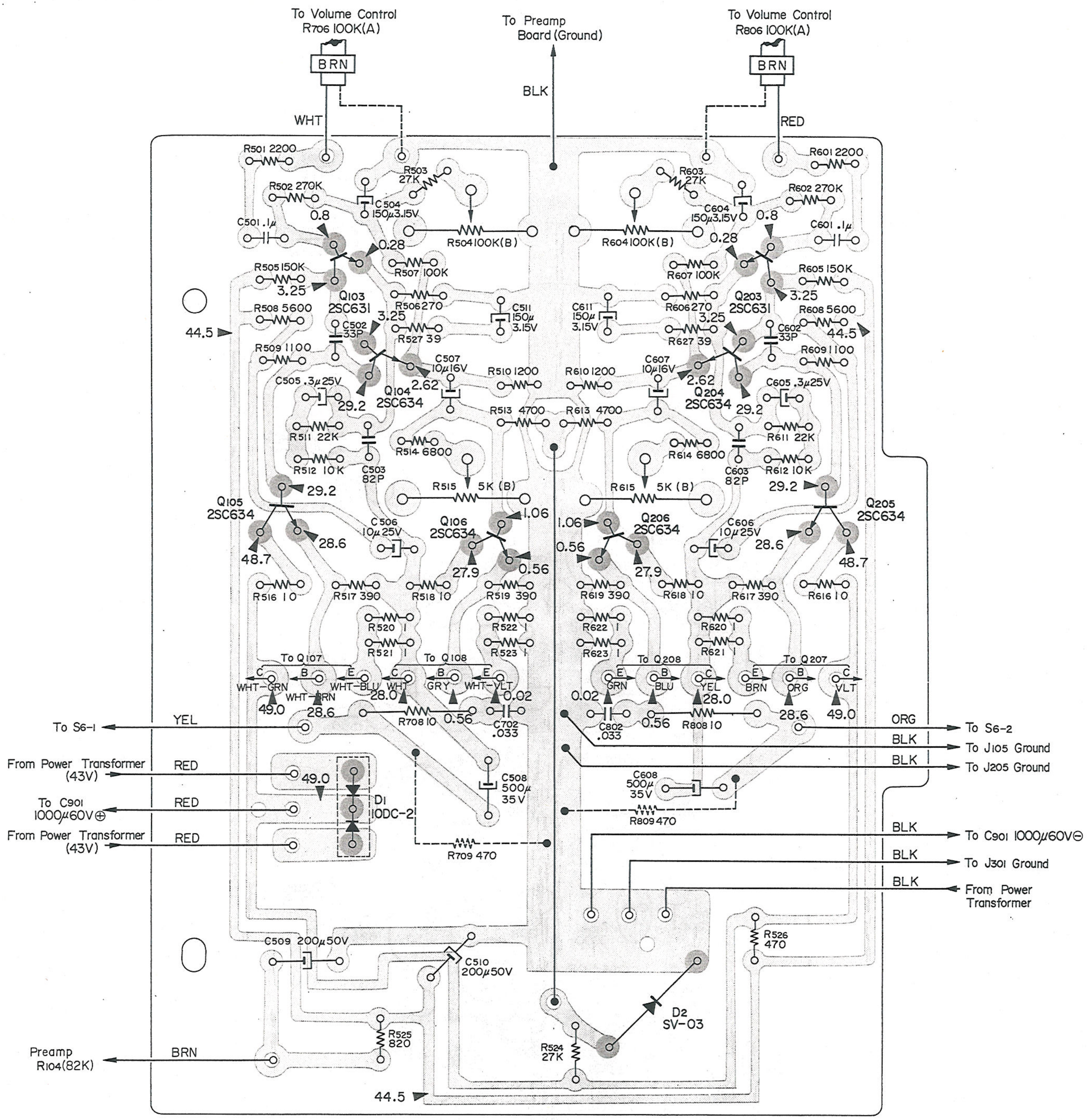
Preamplifier Board *–Component Side–*


R805
10K
R705
10K
R801
120K
R804
1500
R207
120
C205
47μ3.15V
C207
.0068
C208
.001
R211
10K
R203
220K
R202
68
R212
100K
Q202
2SC632
C209
.0047
0.63
15.5
E
C
B
0.02
C202 .001
Q201
2SC631
E
B
C
1.14
0.53
C210
.022
R210
27K
R209
150K
C203 50P
R201
3900
R701
120K
R704
1500
C204
3.3μ
25V
C201
1μ50V
R208
2200
C206
.1
R206
3300
R205
120K
R204
82K
34.8
R108
2200
C106
.1
R106
3300
R105
120K
R104
82K
R802
120K
R803
820
C101
1μ50V
C104
3.3μ
25V
C103 50P
1.14
R110
27K
R109
150K
15.5
C
B
E
0.53
B
Q101
2SC631
R101
3900
C110
.022
0.63
0.02
C102 .001
Q102
2SC632
C109
.0047
R103
220K
R111
10K
R112
100K
C108
.001
C107
.0068
R107
120
C105
47μ3.15V
R102
68
R702
120K
R703
820

5-2. MOUNTING DIAGRAM

Power Amplifier Board

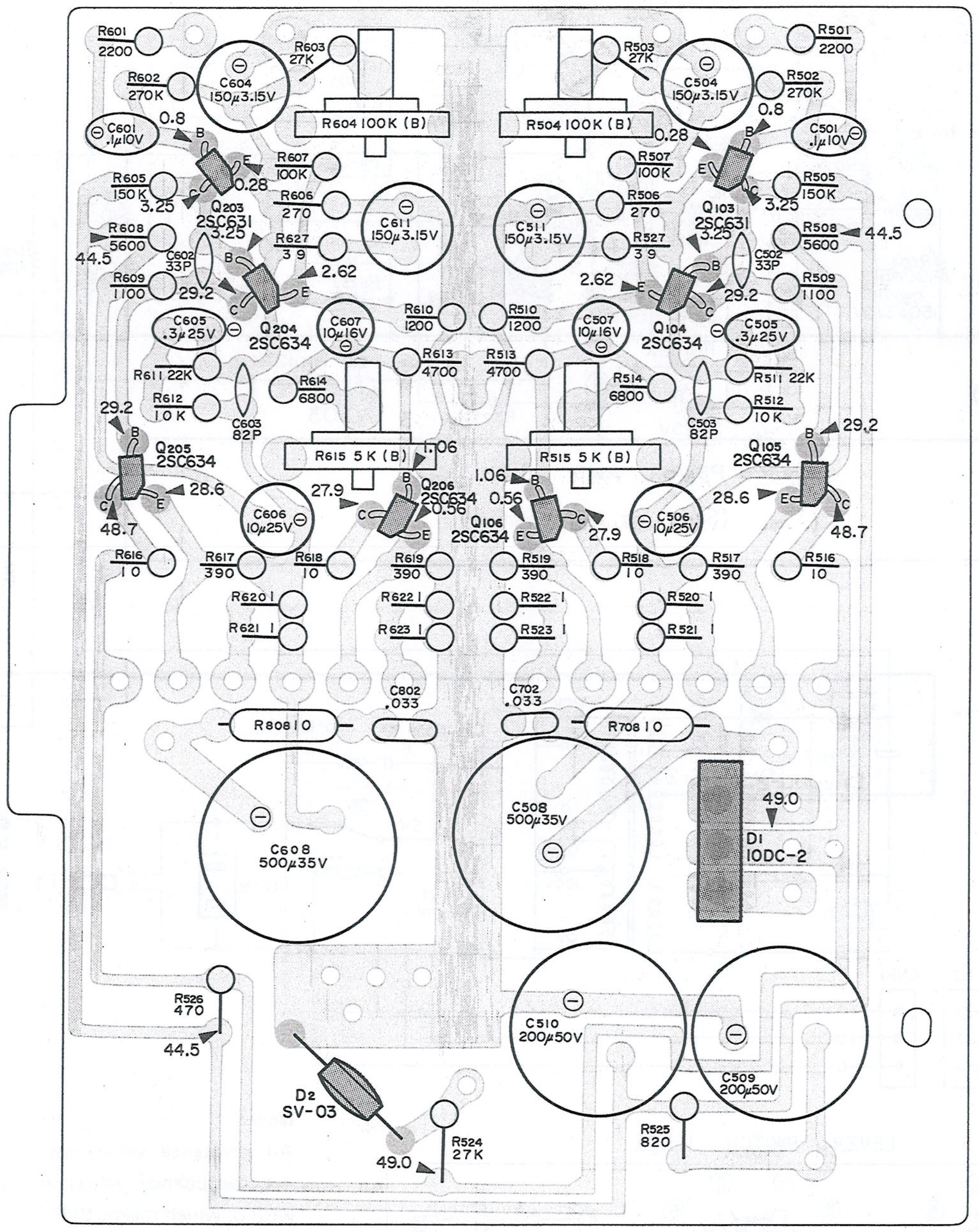
–Conductor Side–


To Volume Control
R706 100K(A)
BRN
WHT
To Preamp
Board (Ground)
BLK
To Volume Control
R806 100K(A)
BRN
RED
R501 2200
R502 270K
R503 27K
C504 150μ3.15V
C501 .1μ
0.8
0.28
R504 100K(B)
R505 150K
3.25
Q103
2SC631
R507 100K
R506 270
C511 150μ 3.15V
R508 5600
44.5
C502 33P
3.25
R527 39
R509 1100
C507 10μ16V
C505 .3μ25V
Q104
2SC634
2.62
29.2
R510 1200
R513 4700
R511 22K
R512 10K
C503 82P
R514 6800
R515 5K (B)
Q105
2SC634
29.2
48.7
28.6
C506 10μ 25V
Q106
2SC634
1.06
0.56
27.9
R516 10
R517 390
R518 10
R519 390
R520 1
R521 1
R522 1
R523 1
To Q107
To Q108
C B E C B E
WHT-GRN
WHT-BRN
WHT-BLU
WHT
GRY
WHT-VLT
28.0
0.02
49.0
28.6
R708 10
0.56
C702 .033
To S6-1
YEL
From Power Transformer (43V)
RED
49.0
D1
10DC-2
C508 500μ 35V
To C901 1000μ60V⊕
RED
From Power Transformer (43V)
RED
R709 470
C509 200μ50V
C510 200μ50V
R525 820
Preamp R104(82K)
BRN
44.5
R524 27K
D2
SV-03
R601 2200
R602 270K
R603 27K
C604 150μ3.15V
C601 .1μ
0.8
0.28
R604 100K(B)
R605 150K
R607 100K
Q203
2SC631
3.25
C611 150μ 3.15V
R606 270
R608 5600
3.25
C602 33P
44.5
R627 39
R609 1100
C607 10μ16V
2.62
Q204
2SC634
C605 .3μ25V
29.2
R610 1200
R613 4700
R611 22K
R614 6800
C603 82P
R612 10K
R615 5K (B)
29.2
Q205
2SC634
Q206
2SC634
1.06
0.56
27.9
C606 10μ 25V
28.6
48.7
R619 390
R618 10
R617 390
R616 10
R622 1
R623 1
R620 1
R621 1
To Q208
To Q207
E B C E B C
GRN
BLU
YEL
BRN
ORG
VLT
28.0
0.02
0.56
C802 .033
R808 10
28.6
49.0
ORG
To S6-2
BLK
To J105 Ground
BLK
To J205 Ground
C608 500μ 35V
R809 470
BLK
To C901 1000μ60V⊖
BLK
To J301 Ground
BLK
From Power Transformer
R526 470

5-2. MOUNTING DIAGRAM

Power Amplifier Board

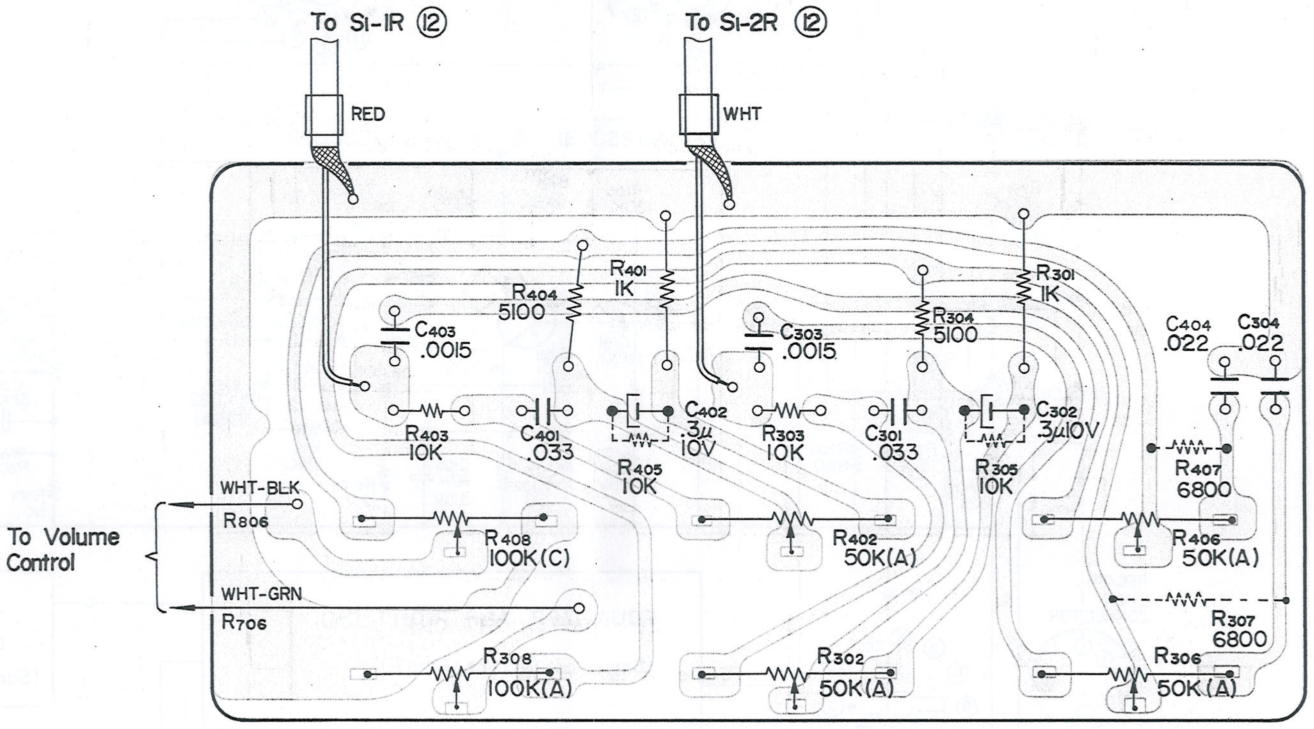
–Component Side–


R601 2200
R602 270K
C604 150μ3.15V
R603 27K
R604 100K (B)
R504 100K (B)
R503 27K
C504 150μ3.15V
R501 2200
R502 270K
C601 .1μ10V
0.8
R605 150K
3.25
0.28
Q203 2SC631
R607 100K
R606 270
C611 150μ3.15V
C511 150μ3.15V
R507 100K
R506 270
Q103 2SC631
C501 .1μ10V
R505 150K
R608 5600
R609 1100
44.5
C602 33P
29.2
R627 39
2.62
R527 39
C502 33P
R508 5600
R509 1100
C605 .3μ25V
Q204 2SC634
C607 10μ16V
R610 1200
R510 1200
C507 10μ16V
Q104 2SC634
C505 .3μ25V
R611 22K
R613 4700
R513 4700
R614 6800
R514 6800
R511 22K
R612 10K
C603 82P
C503 82P
R512 10K
Q205 2SC634
R615 5K (B)
R515 5K (B)
1.06
Q105 2SC634
28.6
27.9
Q206 2SC634
0.56
Q106 2SC634
C606 10μ25V
C506 10μ25V
48.7
R616 10
R617 390
R618 10
R619 390
R519 390
R518 10
R517 390
R516 10
R620 1
R621 1
R622 1
R623 1
R522 1
R523 1
R520 1
R521 1
C802 .033
C702 .033
R808 10
R708 10
C608 500μ35V
C508 500μ35V
49.0
D1 10DC-2
R526 470
C510 200μ50V
C509 200μ50V
D2 SV-03
R524 27K
R525 820

5-3. MOUNTING DIAGRAM

Tone Control Board

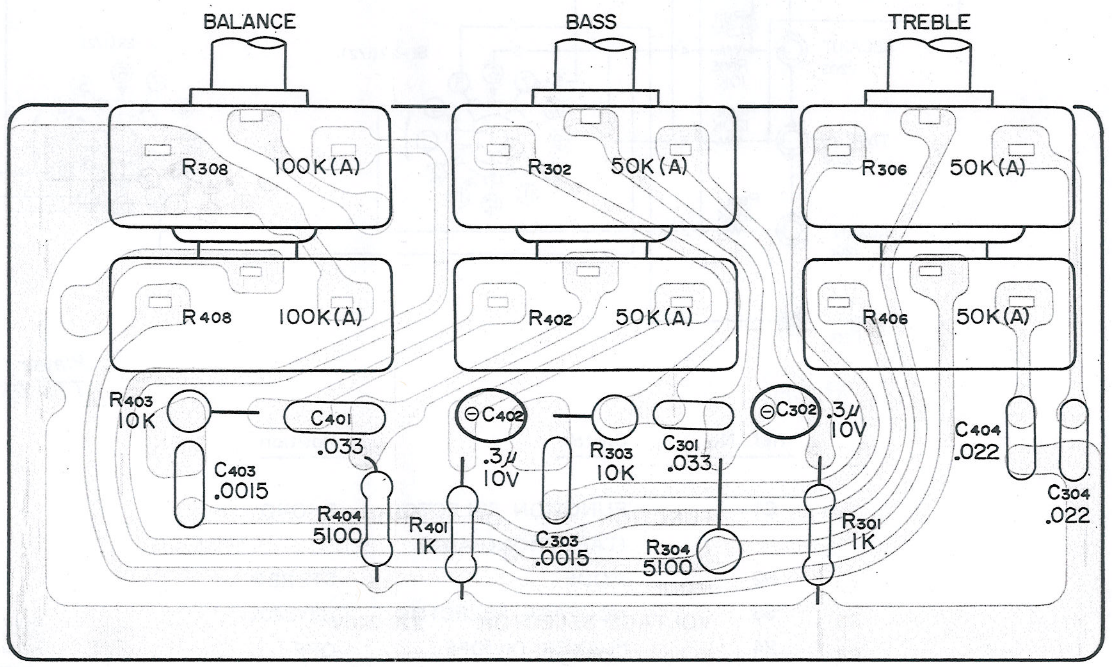
–Conductor Side–


To S1-1R ⑫
To S1-2R ⑫
RED
WHT
R401 1K
R404 5100
C403 .0015
C303 .0015
R304 5100
R301 1K
C404 .022
C304 .022
R403 10K
C401 .033
C402 .3μ 10V
R303 10K
C301 .033
C302 3μ10V
R405 10K
R305 10K
R407 6800
WHT-BLK
R806
To Volume Control
R408 100K(C)
R402 50K(A)
R406 50K(A)
WHT-GRN
R706
R307 6800
R308 100K(A)
R302 50K(A)
R306 50K(A)

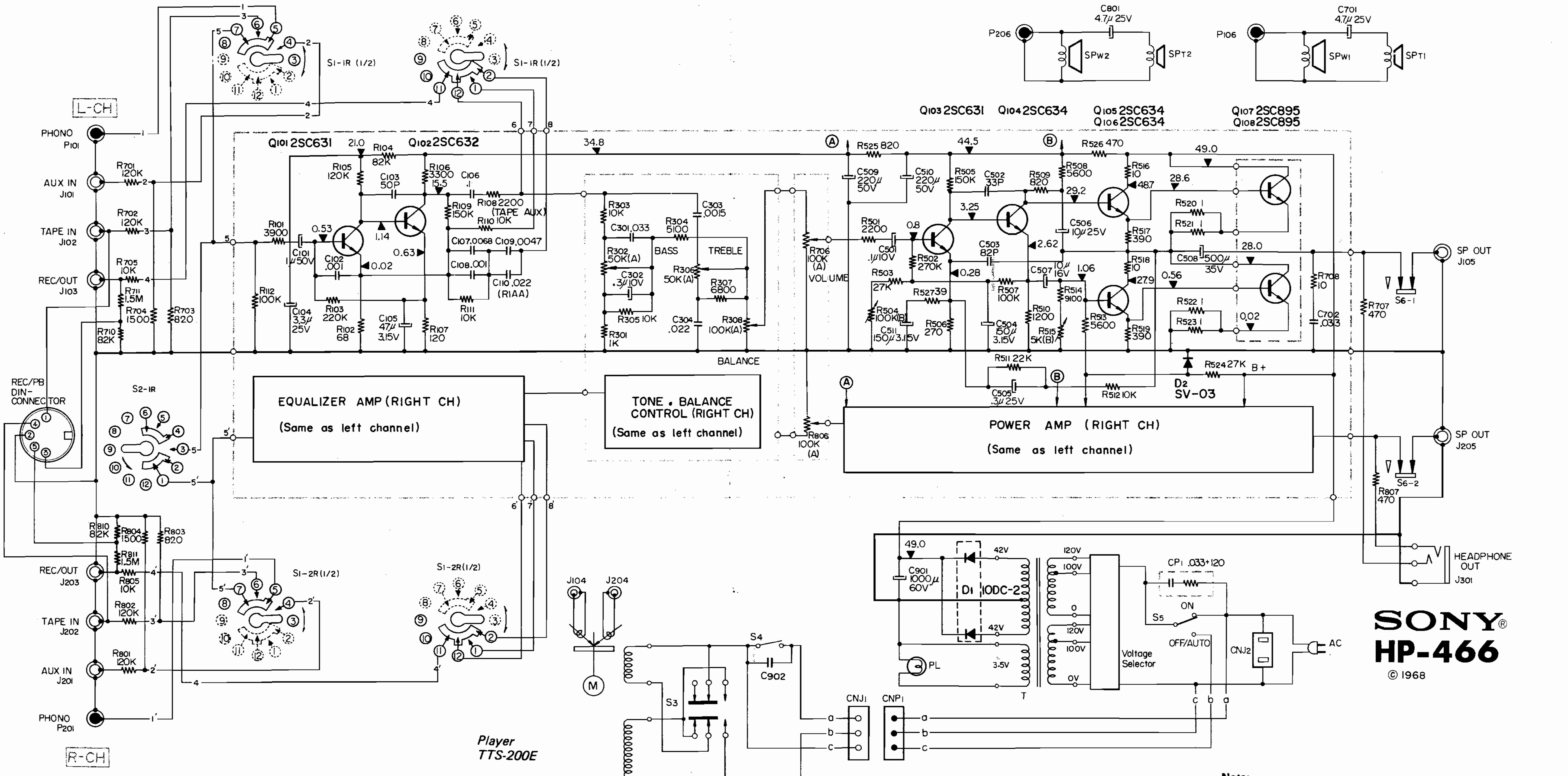
R305, R405, R307 and R407 are mounted on conductor side.

– Component Side –

–Component Side–

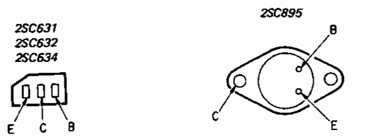

BALANCE
BASS
TREBLE
R308 100K(A)
R302 50K(A)
R306 50K(A)
R408 100K(A)
R402 50K(A)
R406 50K(A)
R403 10K
C401 .033
C402 .3μ 10V
R303 10K
C301 .033
C302 .3μ 10V
C404 .022
C403 .0015
R404 5100
R401 1K
C303 .0015
R304 5100
R301 1K
C304 .022

5-4. SCHEMATIC DIAGRAM

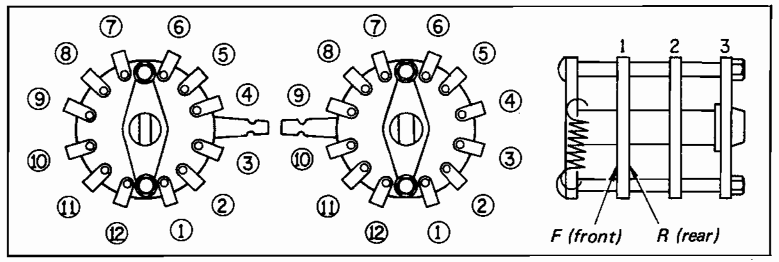

L-CH
PHONO P101
AUX IN J101
TAPE IN J102
REC/OUT J103
REC/PB DIN-CONNECTOR
S1-1R (1/2)
S2-1R
Q101 2SC631
Q102 2SC632
Q103 2SC631
Q104 2SC634
Q105 2SC634
Q106 2SC634
Q107 2SC895
Q108 2SC895
BASS
TREBLE
VOLUME
BALANCE
EQUALIZER AMP (RIGHT CH)
(Same as left channel)
TONE, BALANCE CONTROL (RIGHT CH)
(Same as left channel)
POWER AMP (RIGHT CH)
(Same as left channel)
P206
P106
C801 4.7μ 25V
C701 4.7μ 25V
SPW2
SPT2
SPW1
SPT1
SP OUT J105
SP OUT J205
S6-1
S6-2
HEADPHONE OUT J301
D2 SV-03
D1 10DC-2
C901 1000μ 60V
Voltage Selector
CP1 .033+120
S5
ON
OFF/AUTO
CNJ2
AC
PL
T
J104
J204
M
S3
S4
C902
CNJ1
CNP1
R-CH
REC/OUT J203
TAPE IN J202
AUX IN J201
PHONO P201
S1-2R (1/2)
Player TTS-200E
SONY
HP-466
© 1968

Ref. No.	Switch	Position
S1	FUNCTION SELECTOR (TAPE-PHONO-AUX)	PHONO
S2	MODE	STEREO
S3	VOLTAGE SELECTOR	220-240V
S4	PLAYER ON/OFF	OFF
S5	POWER ON/OFF	ON
S6	SPEAKER ON/OFF	ON

Note: S3 and S4 are mounted on the record player base.


2SC631
2SC632
2SC634
E C B
2SC895
B
C
E

LEVER SWITCH INDEX


⑦ ⑥ ⑧ ⑤ ⑨ ④ ⑩ ③ ⑪ ② ⑫ ①
1 2 3
F (front)
R (rear)

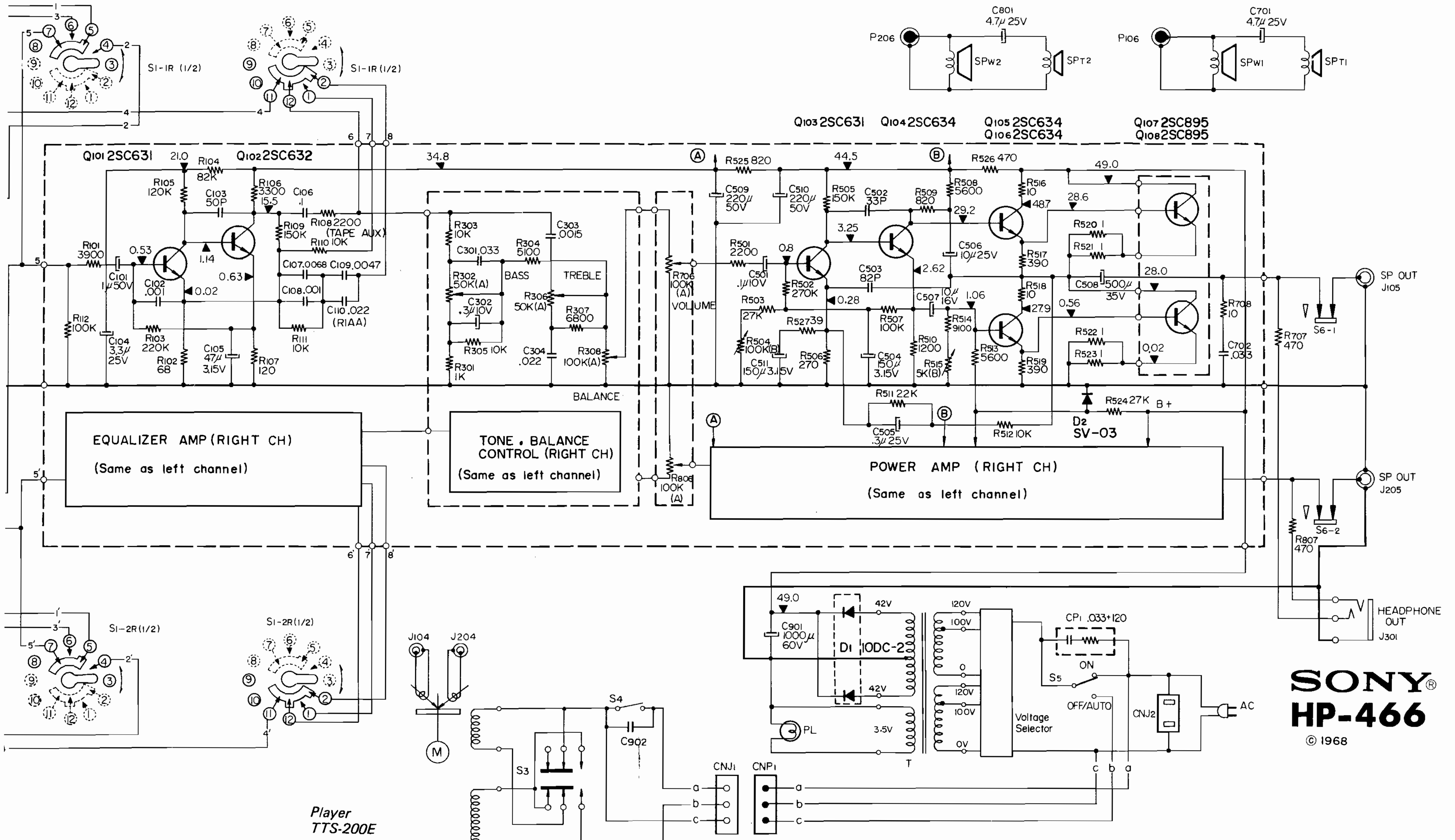
Note:

All resistance values are in ohms. k=1000, M=1000 k

All capacitance values are in μF except as indicated with p, which means μμF.

All voltages represent an average value and should hold within ± 20%.

All voltages are dc measured with a VOM which has an input impedance of 20 k ohms/volt. No signal in. signal voltages are measured with ac VTVM and expressed in dBm refered to 0.775 volts, 1 kHz.

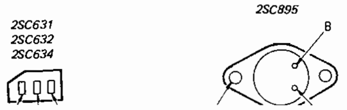

S1-1R (1/2)
S1-2R (1/2)
Q101 2SC631
Q102 2SC632
Q103 2SC631
Q104 2SC634
Q105 2SC634
Q106 2SC634
Q107 2SC895
Q108 2SC895
C801 4.7μ 25V
C701 4.7μ 25V
P206
P106
SPW2
SPT2
SPW1
SPT1
(TAPE AUX)
(RIAA)
BASS
TREBLE
VOLUME
BALANCE
EQUALIZER AMP (RIGHT CH)
(Same as left channel)
TONE . BALANCE CONTROL (RIGHT CH)
(Same as left channel)
POWER AMP (RIGHT CH)
(Same as left channel)
D2 SV-03
SP OUT J105
SP OUT J205
S6-1
S6-2
HEADPHONE OUT J301
D1 10DC-2
C901 1000μ 60V
PL
T
Voltage Selector
CP1 .033+120
S5
ON
OFF/AUTO
CNJ2
AC
J104
J204
M
S3
S4
C902
CNJ1
CNP1
Player
TTS-200E

SONY®

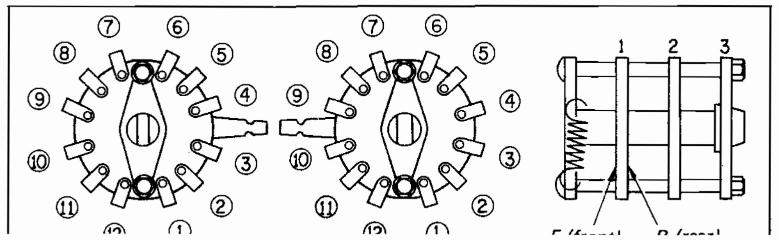
HP-466

© 1968

vitch	Position
JNCTION SELECTOR 'APE-PHONO-AUX)	PHONO
ODE	STEREO
OLTAGE SELECTOR	220-240V
.AYER ON/OFF	OFF
OWER ON/OFF	ON


2SC631
2SC632
2SC634
2SC895
B

LEVER SWITCH INDEX


⑦
⑥
⑧
⑤
⑨
④
⑩
③
⑪
②
⑫
①
1
2
3

Note:

All resistance values are in ohms. k=1000, M=1000 k

All capacitance values are in μF except as indicated with p, which means μμF.

All voltages represent an average value and should hold within ± 20%.

All voltages are dc measured with a VOM which has an input impedance of 20 k ohms/volt. No signal in.

⬚ signal voltages are measured with ac VTVM and

Ref. No.	Part No.	Description	Unit Price
		Resistor, variable	
R302(R402)	1-221-621	50 k/50 k tone control	$0.47
R306(R406)	1-221-621	50 k/50 k tone control	0.47
R308(R408)	1-221-623	100 k/100 k balance control	0.50
R706(R806)	1-222-166	100 k/100 k volume control	0.45
		(6) SWITCHES	
S1	1-514-474-13S	Switch, lever (FUNCTION)	0.57
S2	1-514-475-12S	Switch, lever (MODE)	0.40
S5	1-513-346-23	Switch, seesaw (POWER)	0.40
S6	1-514-304-11	Switch, slide (SPEAKER ON/OFF)	0.12
		(7) MISCELLANEOUS	
CNJ2	1-509-015	AC Outlet	0.10
CNJ3	1-509-029-02	DIN Connector	0.13
CNJ4	1-526-165	Voltage Changeover	0.22
J301	1-507-260	Jack, headphone	0.26
P101	1-506-105-02	Phono Plug, black	0.02
P201	1-506-105-01	Phono Plug, red	0.02
	1-231-037-12	Encapsulated Component, 120 Ω+0.033 μF	0.12
	1-507-142-13	Phono Jack 2-P	0.07
	1-507-185	Phono Jack 6-P	0.23
	1-518-051	Lamp, pilot	0.08
	1-534-487-21	Cord, power	0.32
	1-536-146	Terminal Strip, 1L1	0.02
	1-536-191	Terminal Strip, 2L2	0.02
	1-549-015	Cartridge, V151 A1-3B	0.36
	1-550-006	Player, TTS-200E	31.17

Ref. No.	Part No.	Description	Unit Price
R304(R404)	1-242-690	5.1 k	$0.02
R305(R405)	1-244-697	10 k	0.02
R307(R407)	1-244-693	6.8 k	0.02
R501(R601)	1-242-681	2.2 k	0.02
R502(R602)	1-242-731	270 k	0.02
R503(R603)	1-242-707	27 k	0.02
R504(R604)	1-221-966	100 k, semi-fixed	0.10
R505(R605)	1-242-725	150 k	0.02
R506(R606)	1-242-659	270	0.02
R507(R607)	1-242-721	100 k	0.02
R508(R608)	1-242-691	5.6 k	0.02
R509(R609)	1-242-674	1.1 k	0.02
R510(R610)	1-242-675	1.2 k	0.02
R511(R611)	1-242-705	22 k	0.02
R512(R612)	1-242-697	10 k	0.02
R513(R613)	1-242-689	4.7 k	0.02
R514(R614)	1-242-693	6.8 k	0.02
R515(R615)	1-221-996	5 k, semi-fixed	0.10
R516(R616)	1-242-625	10	0.02
R517(R617)	1-242-663	390	0.02
R518(R618)	1-242-625	10	0.02
R519(R619)	1-242-663	390	0.02
R520(R620)	1-242-601	1	0.02
R521(R621)	1-242-601	1	0.02
R522(R622)	1-242-601	1	0.02
R523(R623)	1-242-601	1	0.02
R524	1-242-707	27 k	0.02
R525	1-242-671	820	0.02
R526	1-242-665	470	0.02
R527(R627)	1-242-639	39	0.02
R701(R801)	1-242-723	120 k	0.02
R702(R802)	1-242-723	120 k	0.02
R703(R803)	1-242-671	820	0.02
R704(R804)	1-242-677	1.5 k	0.02
R705(R805)	1-242-697	10 k	0.02
R707(R807)	1-202-565	470 ±10 % 1/2 W composition	0.01
R708(R808)	1-202-525	10 " " "	0.01
R709(R809)	1-202-565	470 " " "	0.01
R710(R810)	1-244-719	82 k	0.02
R711(R811)	1-244-749	1.5 M	0.02

Ref. No.	Part No.	Description				Unit Price
C301(C401)	1-105-679	0.033	±10 %	50 V	mylar	$0.03
C302(C402)	1-127-021	0.3	±20 %	10 V	electrolytic (aluminum)	0.06
C303(C403)	1-105-663	0.0015	±10 %	50 V	mylar	0.02
C304(C404)	1-105-677	0.022	"	"	"	0.02
C501(C601)	1-105-685	0.1	±10 %	50 V	mylar	0.05
C502(C602)	1-101-873	33 P	"	"	ceramic	0.02
C503(C603)	1-101-893	82 P	"	"	"	0.02
C504(C604)	1-121-741	150	±20 %	3.15 V	electrolytic	0.06
C505(C605)	1-127-092	0.3	"	25 V	electrolytic (aluminum)	0.07
C506(C606)	1-121-472	10	+100 -10 %	"	electrolytic	0.04
C507(C607)	1-121-347	10	"	16 V	"	0.04
C508(C608)	1-121-361	500	"	35 V	"	0.16
C509	1-121-423	220	"	50 V	"	0.13
C510	1-121-423	220	"	"	"	0.13
C511(C611)	1-121-741	150	±20 %	3.15 V	"	0.06
C701(C801)	1-121-281	4.7	+100 -10 %	25 V	electrolytic	0.04
C702(C802)	1-105-679	0.033	±10 %	50 V	mylar	0.03
C901	1-121-330	1000	+100 -10 %	60 V	electrolytic	0.57
		(5) RESISTORS (All resistance values are in Ω, ±5 %, 1/4 W and carbon type unless otherwise indicated.)				
R101(R201)	1-242-687	3.9 k				0.02
R102(R202)	1-242-645	68				0.02
R103(R203)	1-242-729	220 k				0.02
R104(R204)	1-242-719	82 k				0.02
R105(R205)	1-242-723	120 k				0.02
R106(R206)	1-242-685	3.3 k				0.02
R107(R207)	1-242-651	120				0.02
R108(R208)	1-242-681	2.2 k				0.02
R109(R209)	1-242-725	150 k				0.02
R110(R210)	1-242-707	27 k				0.02
R111(R211)	1-242-697	10 k				0.02
R112(R212)	1-242-721	100 k				0.02
R301(R401)	1-242-673	1 k				0.02
R303(R403)	1-242-697	10 k				0.02

III. ELECTRICAL PARTS

(1) MOUNTED CIRCUIT BOARDS

Ref. No.	Part No.	Description	Unit Price
	X-20540-22	Tone Control Circuit Board ----------------	$11.62
	X-20615-21	Power Amplifier Circuit Board -------------	4.11
	X-20615-22	Pre-amplifier Circuit Board ---------------	0.17

(2) SEMICONDUCTORS

Ref. No.	Part No.	Description	Unit Price
D1		Diode, 10DC-2 ------------------------------	0.18
D2		Varistor, SV-03 ----------------------------	0.26
Q101(Q201)		Transistor, 2SC631 ------------------------	0.17
Q102(Q202)		" , 2SC632 ------------------------	0.17
Q103(Q203)		" , 2SC631 ------------------------	0.17
Q104(Q204)		" , 2SC634 ------------------------	0.14
Q105(Q205)		" , 2SC634 ------------------------	0.14
Q106(Q206)		" , 2SC634 ------------------------	0.14
Q107(Q207)		" , 2SC895 ------------------------	0.50
Q108(Q208)		" , 2SC895 ------------------------	0.50

(3) TRANSFORMER

Ref. No.	Part No.	Description	Unit Price
	1-441-421-13	Transformer, power ------------------------	4.53

(4) CAPACITORS (All capacitance values are in µF except as indicated with P, which means µµF.)

Ref. No.	Part No.	Value	Tolerance	Voltage	Type	Unit Price
C101(C201)	1-121-343	1	+150 -10 %	50 V	electrolytic ----	0.04
C102(C202)	1-105-661	0.001	±10 %	"	mylar -----------	0.02
C103(C203)	1-101-562	30 P	"	"	ceramic ---------	0.02
C104(C204)	1-121-344	3.3	+150 -10 %	25 V	electrolytic ----	0.04
C105(C205)	1-121-742	47	+30 -10 %	3.15 V	" ----	0.04
C106(C206)	1-105-685	0.1	±10 %	50 V	mylar -----------	0.05
C107(C207)	1-105-511	0.0068	±5 %	"	" -----------	0.04
C108(C208)	1-105-661	0.001	±10 %	"	" -----------	0.02
C109(C209)	1-105-669	0.0047	"	"	" -----------	0.02
C110(C210)	1-105-517	0.022	±5 %	"	" -----------	0.04

Part No.	Description	Unit Price
	II. ACCESSORIES AND PACKING MATERIALS	
	ACCESSORIES	
X-20438-01	SONY Oil Ass'y	$0.10
X-44900-02	Cloth, polishing	0.03
1-534-436-14	Connection Cord, RK-77 (red)	0.41
1-534-436-24	Connection Cord, RK-77 (white)	0.41
2-031-965	Manual Adaptor, 45 rpm	0.04
2-033-590	Bag, polyethylene	0.01
2-057-975	Bag, polyethylene	0.01
3-701-020	Bag, polyethylene	0.01
3-790-879	Manual, instruction	0.59
3-793-026	Caution Label, "Lock Paint"	0.01
3-793-183	Card, inspection	0.01
3-793-192	Instruction Sheet, player ass'y	0.03
3-793-201	Instruction Sheet, motor ass'y	0.02
7-491-001	Desiccant	0.02
	PACKING MATERIALS	
X-20540-05-5	Carton Ass'y (for speaker)	1.18
X-20548-09	Carton Ass'y	1.10
2-054-052	Cushion, right	0.42
2-054-053	Cushion, left	0.42
2-054-054	Bag, polyethylene	0.13
2-061-503	Bag, polyethylene	0.17
3-444-070	Bag, polyethylene	0.06

Part No.	Description	Unit Price
2-054-040	Shade, volume lamp	$0.02
2-054-055	Ornamental Plate, volume control	0.15
2-054-061	Stud, voltage changeover support	0.04
2-054-815	Cover, power transistor	0.20
2-054-831	Cushion, light shield	0.01
2-061-504	Label, specification	0.04
2-825-006	Spacer, mica	0.01
2-832-002	Bushing, insulator	0.01
3-403-472	Foot, rubber	0.03
3-410-032	Strain Relief, power cord	0.02
3-701-028	Tack Label 50 Hz	0.01
3-701-402-01	Rivet	0.01
3-807-728	Holder, volume lamp	0.01
3-811-132	Spring, volume control knob	0.01
4-008-404	SONY Emblem	0.08
	HARDWARES	
7-621-118-83	Screw, machine (-) P 3 x 14	0.19/100
7-621-259-33	Screw, machine (+) P 2.6 x 5	0.10/100
7-621-261-43	Screw, machine (+) P 3 x 6	0.12/100
7-621-261-53	Screw, machine (+) P 3 x 8	0.11/100
7-621-261-63	Screw, machine (+) P 3 x 10	0.11/100
7-621-261-73	Screw, machine (+) P 3 x 12	0.12/100
7-621-261-89	Screw, machine (+) P 3 x 14	0.85/100
7-621-262-63	Screw, machine (+) P 3 x 30	0.22/100
7-621-268-83	Screw, machine (+) P 4 x 14	0.20/100
7-621-622-03	Screw, machine (+) P 3 x 16	0.20/100
7-621-722-46	Screw, self-tapping 3 x 6	0.25/100
7-621-743-26	Screw, wood (+) R 3.1 x 10	0.16/100
7-621-770-43	Screw, machine (+) B 3 x 6	0.66/100
7-621-771-14	Screw, machine (+) B 3 x 14	0.53/100
7-621-840-96	Screw, wood (+) R 2.1 x 13	0.19/100
7-621-842-67	Screw, wood (+) RK 2.7 x 20	0.57/100
7-621-843-29	Screw, wood (+) R 3.1 x 10	0.48/100
7-621-846-37	Screw, wood (+) R 4.1 x 10	1.00/100
7-622-108-22	Nut 3 ∅	0.30/100
7-622-312-06	Nut 5 ∅	0.90/100
7-623-108-12	Washer 3 ∅	0.09/100
7-623-110-02	Washer 4 ∅	0.14/100
7-623-208-22	Washer, spring 3 ∅	0.06/100
7-623-508-01	Lug 3 ∅	0.13/100
7-628-251-13	Screw, machine (+) P 3 x 5	0.24/100
7-629-202-08	Nail 1 x 15	0.43/100

Part No.	Description	Unit Price
	I. MECHANICAL PARTS	
X-20472-09-6	Knob, lever switch	$0.13
X-20540-01	Sub-panel Ass'y	0.66
X-20540-04-1	Cabinet Ass'y, speaker (with phono jack left)	14.18
X-20540-04-2	Cabinet Ass'y, speaker (with phono jack right)	14.18
(X-20540-81)	Front Panel Ass'y, speaker grille cloth	5.83
(1-121-281)	Capacitor, electrolytic 4.7 µF +100 -10 % 50 V	0.04
(1-502-174)	Speaker, tweeter	0.69
(1-502-205)	Speaker, woofer	2.46
(1-507-176)	Phono Jack 5-P	0.05
(1-536-146)	Terminal Strip	0.02
(2-031-940)	SONY Emblem	0.11
(2-054-009)	Cabinet	6.75
(2-054-010)	Baffleboard	0.16
(2-054-011)	Sash, speaker	1.18
(2-054-012)	Stuff, sound absorption	0.17
(2-054-015)	Label, speaker	0.01
X-20548-02	Chassis Ass'y	1.63
X-20548-08	Cabinet Ass'y, player	15.36
(X-20548-81)	Top Cover Ass'y	1.65
(2-054-007)	Bracket, chassis support	0.12
(2-054-839)	Cabinet, player	4.25
(2-054-842)	Hinge	0.47
(2-054-843)	Sash, top cover	0.25
(2-054-844)	Cushion, top cover	0.22/100
2-029-936	Washer, fiber	0.01
2-029-952	Clamp, wire	0.01
2-029-953	Label, power requirement indicating	0.01
2-033-543	Mat, turntable	0.72
2-039-802	Mask, light shield (power switch)	0.01
2-047-106	Mask, light shield (mode switch)	0.01
2-047-107	Mask, light shield (function switch)	0.01
2-051-919	Escutcheon, headphone jack	0.03
2-054-016-21	Panel, front	2.36
2-054-017	Knob, volume control	0.20
2-054-018	Knob, tone control	0.19
2-054-019	Sub-panel, volume control	0.18
2-054-020	Housing, volume indicator	0.04
2-054-021	Trim, front panel	0.28
2-054-022	Panel, rear	0.45
2-054-036	Housing, tone control support	0.06
2-054-037	Bracket, headphone-jack support	0.04
2-054-039	Plate, volume indicator	0.01

3333

COMPLETE SPARE PARTS LIST

for

HP-466

* ORDERING PARTS

It is important when ordering parts to mention specifically the "Part Number", "Model Number" and "Description".

This will avoid possible confusion and delay.

Note: In this Parts List, items whose part numbers are in parentheses belong to the assembled part listed immediately above, but are also available separately.

Example:

X-20533-20 -------------- Flywheel Assembly
(2-053-320) ------------- Flywheel
(2-053-321) ------------- Tuning Shaft

Ref. No.	*Part No.*	*Description*		
R525(R625)	1-242-671	820		
R526(R626)	1-242-665	470		
R527(R627)	1-242-639	39		
R701(R801)	1-242-723	120k		
R702(R802)	1-242-723	120k		
R703(R803)	1-242-671	820		
R704(R804)	1-242-677	1.5k		
R705(R805)	1-242-697	10k		
R707(R807)	1-202-565	470	±10%	1/2 watts composition
R708(R808)	1-202-525	10	〃	〃 〃 〃
R709(R809)	1-202-565	470	〃	〃 〃
R710(R810)	1-244-719	82k		
R711(R811)	1-244-749	1.5M		

Resistor, variable

Ref. No.	*Part No.*	*Description*	
R302(R402)	1-221-621	50k/50k	tone control
R306(R406)	1-221-621	〃	〃
R308(R408)	1-221-623	100k/100k	balance control
R706(R806)	1-222-166	100k/100k	volume control

Switches

Ref. No.	*Part No.*	*Description*
S1	1-514-474-13S	switch, lever (FUNCTION)
S2	1-514-475-12S	switch lever (MODE)
S5	1-513-346-23	〃 seesaw (POWER)
S6	1-514-304-11	〃 slide (SPEAKER ON/OFF)

Miscellaneous

Ref. No.	*Part No.*	*Description*
CNJ2	1-509-015	ac outlet
CNJ3	1-509-029-02	DIN connector
CNJ4	1-526-165	voltage changeover block
J301	1-507-260	jack, headphone
P101	1-506-105-02	phono plug, black
P201	1-506-105-01	phono plug, red
	1-231-057-12	encapsulated component, 120Ω+0.033μF
	1-507-142-13	phono jack 2-p
	1-507-185	phono jack 6-p
	1-518-051-11	lamp, pilot
	1-534-487-21	cord, power
	1-536-146	terminal strip, 1L1
	1-536-191	terminal strip, 2L2
	1-549-015	cartridge, V151 AT-3B
	1-550-006	player, TTS-200E

SONY CORPORATION

SECTION 7
ELECTRICAL PARTS LIST

Mounted Circuit Boards

Ref. No.	*Part No.*	*Description*
	X-20540-22	tone control circuit board
	X-20615-21	power amplifier circuit board
	X-20615-22	pre-amplifier circuit board

Semiconductors

Ref. No.	*Part No.*	*Description*	
D1		diode,	10DC-2
D2		varistor,	SV-03
Q101(Q201)		transistor,	2SC631
Q102(Q202)		〃	2SC632
Q103(Q203)		〃	2SC631
Q104(Q204)		〃	2SC634
Q105(Q205)		〃	〃
Q106(Q206)		〃	〃
Q107(Q207)		〃	2SC895
Q108(Q208)		〃	〃

Transformer

Ref. No.	*Part No.*	*Description*
	1-441-421-13	transformer, power

Capacitors

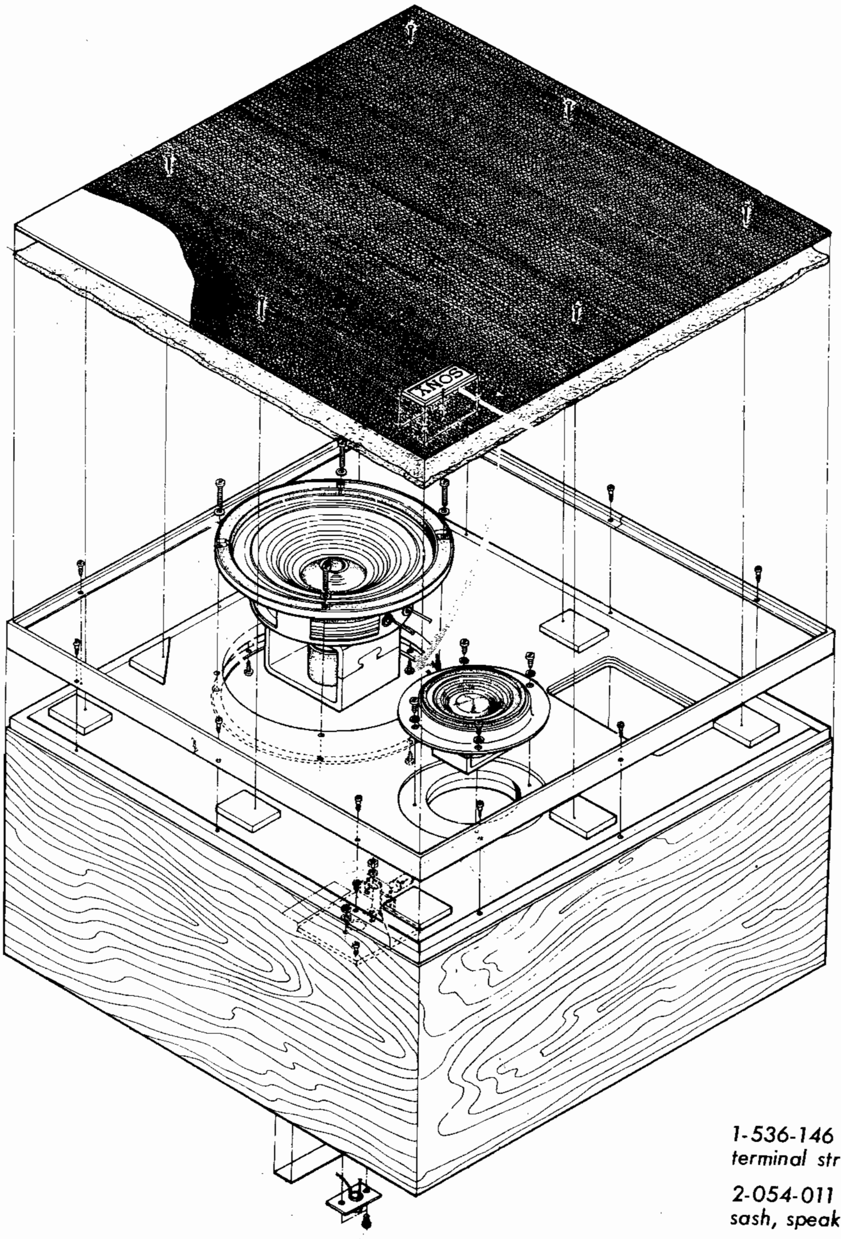
All capacitance values are in microfarads unless otherwise indicated.

Ref. No.	*Part No.*	*Description*			
C101(C201)	1-121-343	1	+150-10%	50V	electrolytic
C102(C202)	1-105-661	0.001	±10%	〃	mylar
C103(C203)	1-101-562	50p	〃	〃	ceramic
C104(C204)	1-121-344	3.3	+150-10%	25V	electrolytic
C105(C205)	1-121-742	47	+30-10%	3.15V	〃
C106(C206)	1-105-685	0.1	±10%	50V	mylar
C107(C207)	1-105-511	0.0068	±5%	〃	〃
C108(C208)	1-105-661	0.001	±10%	〃	〃
C109(C209)	1-105-669	0.0047	〃	〃	〃
C110(C210)	1-105-517	0.022	±5%	〃	〃
C301(C401)	1-105-679	0.033	±10%	〃	〃
C302(C402)	1-127-021	0.3	±20%	10V	electrolytic (aluminum)
C303(C403)	1-105-663	0.0015	±10%	50V	mylar
C304(C404)	1-105-677	0.022	〃	〃	〃
C501(C601)	1-105-685	0.1	〃	〃	〃
C502(C602)	1-101-873	33p	〃	〃	ceramic
C503(C603)	1-101-893	82p	〃	〃	〃
C504(C604)	1-121-741	150	±20%	3.15V	electrolytic
C505(C605)	1-127-092	0.3	〃	25V	electrolytic (aluminum)
C506(C606)	1-121-472	10	+100-10%	〃	electrolytic
C507(C607)	1-121-347	〃	〃	16	〃
C508(C608)	1-121-361	500	〃	35	〃
C509(C609)	1-121-423	220	〃	50	〃
C510(C610)	1-121-423	〃	〃	〃	〃
C511(C611)	1-121-741	150	±20%	3.15V	〃
C702(C802)	1-105-679	0.033	±10%	50V	mylar
C901	1-121-330	1000	+100-10%	60V	electrolytic

Resistors

All resistance values are in ohms ±5%, 1/4 watts fixed, carbon type unless otherwise indicated.

Ref. No.	*Part No.*	*Description*
R101(R201)	1-242-687	3.9k
R102(R202)	1-242-645	68
R103(R203)	1-242-729	220k
R104(R204)	1-242-719	82k
R105(R205)	1-242-723	120k
R106(R206)	1-242-685	3.3k
R107(R207)	1-242-651	120
R108(R208)	1-242-681	2.2k
R109(R209)	1-242-725	150k
R110(R210)	1-242-707	27k
R111(R211)	1-242-697	10k
R112(R212)	1-242-721	100k
R301(R401)	1-242-673	1k
R303(R403)	1-242-697	10k
R304(R404)	1-242-690	5.1k
R305(R405)	1-244-697	10k
R307(R407)	1-244-693	6.8k
R501(R601)	1-242-681	2.2k
R502(R602)	1-242-731	270k
R503(R603)	1-242-707	27k
R504(T604)	1-221-966	100k, semi-fixed
R505(R605)	1-242-725	150k
R506(R606)	1-242-659	270
R507(R607)	1-242-721	100k
R508(R608)	1-242-691	5.6k
R509(R609)	1-242-674	1.1k
R510(R610)	1-242-675	1.2k
R511(R611)	1-242-705	22k
R512(R612)	1-242-697	10k
R513(R613)	1-242-689	4.7k
R514(R614)	1-242-693	6.8k
R515(R615)	1-221-996	5k, semi-fixed
R516(R616)	1-242-625	10
R517(R617)	1-242-663	390
R518(R618)	1-242-625	10
R519(R619)	1-242-663	390
R520(R620)	1-242-601	1
R521(R621)	1-242-601	1
R522(R622)	1-242-601	1
R523(R623)	1-242-601	1
R524(R624)	1-242-707	27k



7-629-202-08
nail 1 φ×15

X-20540-81
front panel ass'y
speaker grille cloth

2-054-012
glass wool

7-621-261-89
screw, machine
(+) P 3×14

7-623-108-12
washer 3 φ

1-502-205
speaker (woofer)

2-054-010
holding plate, speaker

7-621-840-96
screw, wood
(+) R 2.1×13

7-621-840-96
screw, wood
(+) 2.1×13

2-031-940
emblem "SONY"

7-621-846-37
screw, wood
(+) R 4.1×10

7-623-208-22
washer, spring 3 φ

1-502-174
speaker (tweeter)

7-622-108-02
nut 3 φ

7-622-108-02
nut 3 φ

2-054-015
label, speaker

1-507-176
phono jack, 1-pin

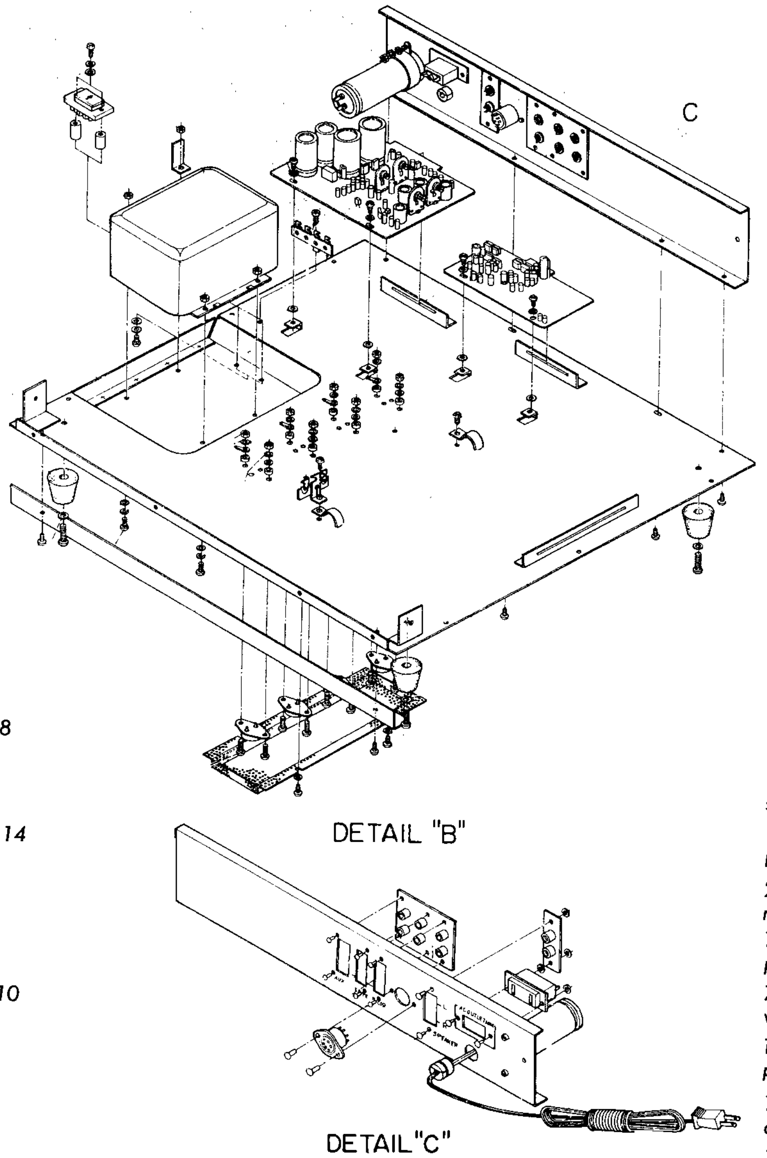
7-621-53
screw, machine (+) P 3×8

1-536-146
terminal strip

2-054-011
sash, speaker

2-054-009
speaker box

1-121-281
capacitor, electrolytic
C701 (801)



7-623-108-12
washer 3ϕ
X-20615-21
mounted circuit board,
power amplifier
7-684-013-01
nut 3ϕ
2-029-952
retainer, wire
7-621-261-70
screw (+) P 3×8
7-684-013-01
nut 3ϕ
7-623-108-12
washer 3ϕ
1-526-165
voltage selector
2-054-061
stud, voltage selector
7-684-013-01
nut 3ϕ
1-441-421-13
transformer, power
7-684-013-01
nut 3ϕ
2-029-936
washer, insulator
7-621-722-51
screw, tapping
(+) R 3×8
1-536-191
terminal strip
3-403-472-05
foot, rubber
2-054-021
plate, ornamental
7-621-722-51
screw, tapping(+)R3×8
7-623-108-12
washer 3ϕ
7-682-164-03
screw, machine(+)P4×14
7-623-108-12
washer 3ϕ
7-623-208-22
washer, spring 3ϕ
7-682-149-03
scew, machine(+)P3×10
7-684-013-01
nut 3ϕ
7-623-208-22
washer, spring 3ϕ
7-623-508-01
lug 3ϕ
bushing 3.2ϕ
7-623-108-12
washer 3ϕ

transistor, power

7-682-150-03
screw, machine(+)P3×12
2-054-038
cover, power transistor
protection

7-621-722-51
screw, tapping (+) R 3×8
1-121-330
capacitor, electrolytic C901
7-684-013-01
nut 3ϕ
7-623-208-22
washer, spring 3ϕ
7-623-12
washer 3ϕ

2-054-022
rear panel
X-20615-22
mounted circuit board,
preamplifier
7-621-722-51
screw, tapping(+) R3×8
7-623-108-12
washer 3ϕ
2-029-936
washer, fiber board
7-621-722-51
screw, tapping (+)R 3×8
2-029-952
retainer, wire
7-621-722-51
screw, tapping(+)R3×8
1-536-146
terminal strip
2-029-952
retainer, wire
X-20548-02
chassis ass'y
7-621-722-51
screw, tapping(+)R3×8

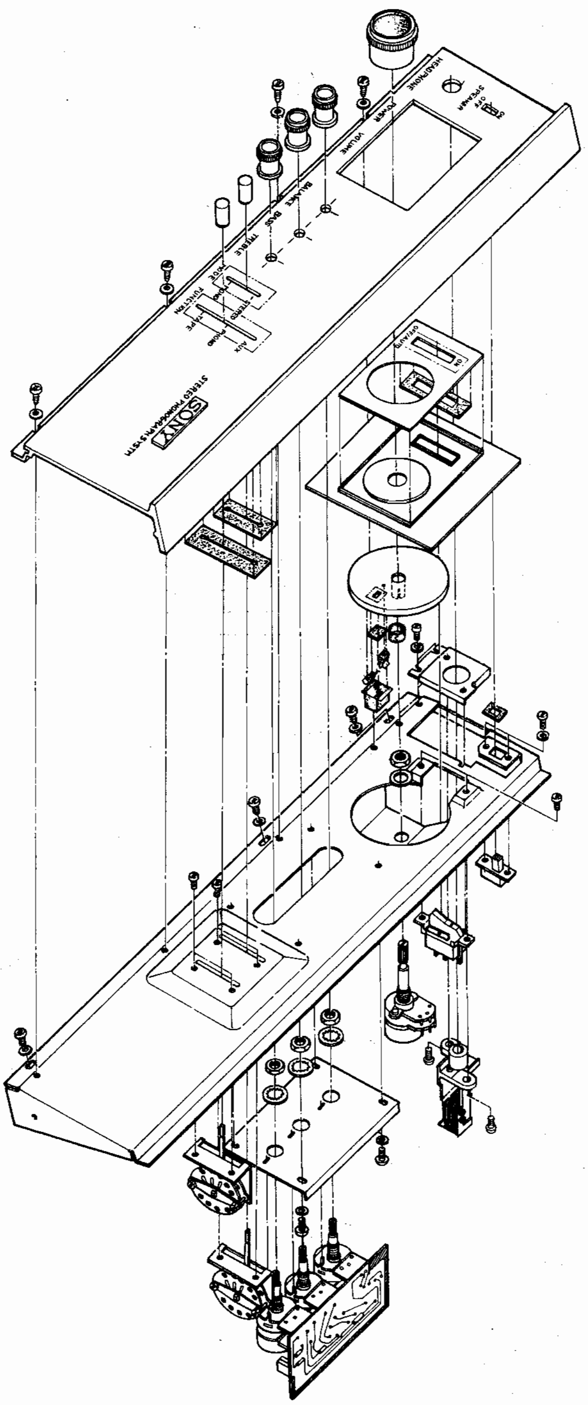
7-623-108-12
washer 3ϕ
7-684-013-01
nut 3ϕ
7-621-261-70
screw (+) 3×8

7-623-108-12
washer 3ϕ
7-621-722-51
screw, tapping(+)R 3×8
1-509-029-02
DIN connector
2-047-211-06
rivet, TA
1-507-185
phono jack 6-pin
7-623-108-12
washer 3ϕ
1-507-142
phono jack 2-pin
1-534-487-21
cord, power
7-623-108-12
washer 3ϕ
1-509-015
socket, AC
7-682-147-03
screw, machine (+)P 3×6
2-047-211-08
rivet, TA
3-410-032
stopper, AC cord

2-054-018
knob, tone control (balance)
7-621-722-51
screw, tapping (+) R 3×8
7-623-108-12
washer 3 φ
X-20472-09-6
knob ass'y, lever

2-047-107
cushion (B), light interception
2-047-106
cushion (A), light interception
2-054-039
plate, volume indicator
3-807-728
holder, lamp
1-518-051
lamp, pilot
2-514-040
shading, pilot lamp
nut 8 φ (supplied with
volume control)
washer 8.2 φ (supplied
with volume control)
7-682-722-51
screw, tapping (+) R 3×8
7-623-108-12
washer 3 φ
7-682-646-01
screw, machine (+) P 3×5
(with spring washer)
X-20540-01
sub-chassis ass'y, front

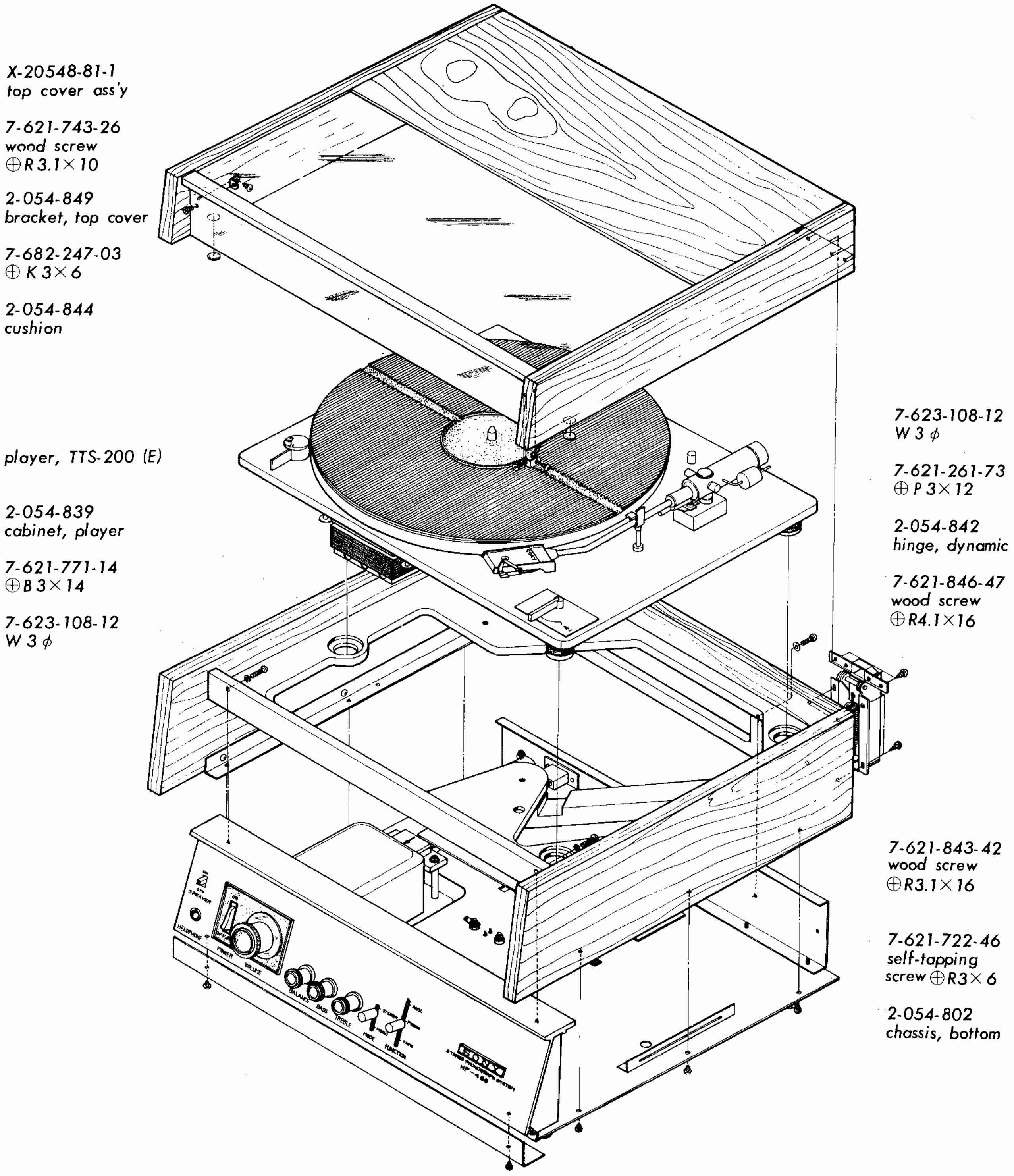
1-514-474-13S
switch, lever S1
1-514-475-12S
switch, lever S2
1-221-623
resistor, variable
(TREBLE)



DETAIL "A"

2-054-017
knob, volume control
2-054-016
front panel
2-054-055
ornamental plate, volume control
2-039-802
cushion (A), light interception
2-054-019
panel, volume control
2-054-020
housing, volume control indicator
3-811-132
spring, volume control knob
7-682-646-01
screw, machine (+) P 3× 5
(with spring washer)
7-623-108-12
washer 3 φ
2-054-037
plate, headphone jack
2-054-831
cushion (C), light interception
7-621-259-33
screw, machine (+) P 2.6× 5
7-623-108-12
washer 3 φ
7-622-722-51
screw, tapping (+) R 3× 8
1-514-304
switch, slide S6
1-513-346-23
switch, power S5
1-222-166
resistor, variable
(VOLUME CONTROL)
2-051-919
escutcheon, jack
1-507-260
JM-60, M-3, SEMKO jack J301
7-621-722-51
screw, tapping (+) R 3× 8
nut 8 φ (supplied with
tone control)
washer, lock 8.3 φ (supplied
with tone control)
2-054-036
housing, tone control
7-623-108-12
washer 3 φ
7-682-646-01
screw, machine (+) P 3× 5
(with spring washer)
1-221-621
resistor, variable (BALANCE)
1-221-623
resistor, variable (BASS)
X-20540-22-1
mounted circuit board,
tone control

SECTION 6
EXPLODED VIEW


X-20548-81-1
top cover ass'y
7-621-743-26
wood screw
⊕R3.1×10
2-054-849
bracket, top cover
7-682-247-03
⊕K3×6
2-054-844
cushion
player, TTS-200 (E)
2-054-839
cabinet, player
7-621-771-14
⊕B3×14
7-623-108-12
W3ϕ
7-623-108-12
W3ϕ
7-621-261-73
⊕P3×12
2-054-842
hinge, dynamic
7-621-846-47
wood screw
⊕R4.1×16
7-621-843-42
wood screw
⊕R3.1×16
7-621-722-46
self-tapping
screw ⊕R3×6
2-054-802
chassis, bottom
SONY
HP-466
HEADPHONE
SPEAKER
POWER
VOLUME
BALANCE
BASS
TREBLE
FUNCTION